

VPDES PERMIT PROGRAM FACT SHEET

FILE NO: 277

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MAJOR, MUNICIPAL** permit.

1. **PERMIT NO.:** VA0081299 **EXPIRATION DATE:** 11/04/2004
2. **FACILITY NAME AND LOCAL MAILING ADDRESS** **FACILITY LOCATION ADDRESS (IF DIFFERENT)**

Hampton Roads Sanitation District
Nansemond STP
P.O. Box 5911
Virginia Beach, VA 23471-0911

Armistead
6909 ~~Armistead~~ Road
Suffolk, VA

CONTACT AT FACILITY:

NAME: Dr. James Pletl
TITLE: Chief of Technical Services
PHONE: (757) 460-2261

CONTACT AT LOCATION ADDRESS

NAME: N/A
TITLE:
PHONE:

3. **OWNER CONTACT:** (TO RECEIVE PERMIT) **CONSULTANT CONTACT:**
- NAME:** Mr. Edward G. Henifin **NAME:** N/A
TITLE: General Manager **FIRM NAME:**
COMPANY NAME: HRSD **ADDRESS:**
ADDRESS: P.O. Box 5911
Virginia Beach, VA 23471-0911

PHONE: (757) 460-2261

PHONE: ()

4. **PERMIT DRAFTED BY:** DEQ, Water Permits, Regional Office

Permit Writers: Deanna Austin DDA
Reviewed By: Mark Sauer (MS)

Date(s): 7/6/07-8/17/07, 10/29/07
Date(s): 8/22/07

5. **PERMIT ACTION:**

() Issuance (X) Reissuance () Revoke & Reissue () Owner Modification
() Board Modification () Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:**

Attachment <u>1</u>	Site Inspection Report/Memorandum
Attachment <u>2</u>	Discharge Location/Topographic Map
Attachment <u>3</u>	Schematic/Plans & Specs/Site Map/Water Balance
Attachment <u>4</u>	TABLE I - Discharge/Outfall Description
Attachment <u>5</u>	TABLE II - Effluent Monitoring/Limitations
Attachment <u>6</u>	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment <u>7</u>	Special Conditions Rationale
Attachment <u>8</u>	Toxics Monitoring/Toxics Reduction/WET Limit Rationale
Attachment <u>9</u>	Material Stored
Attachment <u>9</u>	Receiving Waters Info./Tier Determination/STORET Data/Stream Modeling
Attachment <u>9</u>	303(d) Listed Segments
Attachment <u>10</u>	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment <u>11</u>	NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist
Attachment <u>12</u>	Chronology Sheet
Attachment <u> </u>	Public Participation

APPLICATION COMPLETE: May 20, 2004

7. **PERMIT CHARACTERIZATION:** (Check as many as appropriate)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Existing Discharge | <input checked="" type="checkbox"/> Effluent Limited |
| <input type="checkbox"/> Proposed Discharge | <input checked="" type="checkbox"/> Water Quality Limited |
| <input checked="" type="checkbox"/> Municipal | <input type="checkbox"/> WET Limit |
| <u>SIC Code #4952</u> | <input type="checkbox"/> Interim Limits in Permit |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Interim Limits in Other Document |
| SIC Code(s) | <input type="checkbox"/> Compliance Schedule Required |
| <input checked="" type="checkbox"/> POTW | <input type="checkbox"/> Site Specific WQ Criteria |
| <input type="checkbox"/> PVOTW | <input type="checkbox"/> Variance to WQ Standards |
| <input type="checkbox"/> Private | <input type="checkbox"/> Water Effects Ratio |
| <input type="checkbox"/> Federal | <input checked="" type="checkbox"/> Discharge to 303(d) Listed Segment |
| <input type="checkbox"/> State | <input checked="" type="checkbox"/> Toxics Management Program Required |
| <input type="checkbox"/> Publicly-Owned Industrial | <input type="checkbox"/> Toxics Reduction Evaluation |
| | <input type="checkbox"/> Storm Water Management Plan |
| | <input checked="" type="checkbox"/> Pretreatment Program Required |
| | <input type="checkbox"/> Possible Interstate Effect |
| | <input checked="" type="checkbox"/> CBP Significant Dischargers List |

8. **RECEIVING WATERS CLASSIFICATION:** River basin information.

Outfall No: 001

Receiving Stream: Hampton Roads Harbor
River Mile: 2-JMS006.98
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard(s): a, z, NEW-19
Tidal: YES
7-Day/10-Year Low Flow: N/A
1-Day/10-Year Low Flow: N/A
30-Day/5-Year Low Flow: N/A
Harmonic Mean Flow: N/A

Outfall No(s): 002-006

Receiving Stream: Streeter Creek to Hampton Roads Harbor
River Mile: 2-JMS006.98
Basin: James River (Lower)
Subbasin: N/A
Section: 1
Class: II
Special Standard(s): a, z, NEW-19
Tidal: YES
7-Day/10-Year Low Flow: N/A
1-Day/10-Year Low Flow: N/A
30-Day/5-Year Low Flow: N/A
Harmonic Mean Flow: N/A

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from the discharge of treated domestic sewage.

10. **LICENSED OPERATOR REQUIREMENTS:** ☐ No ☒ Yes Class: I

11. **RELIABILITY CLASS:** I

12. SITE INSPECTION DATE: 2/28/07 REPORT DATE: 3/9/07

Performed By: Jennifer LaCroix, TRO

SEE ATTACHMENT 1

13. DISCHARGE(S) LOCATION DESCRIPTION: Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Newport News South Quadrant No.: 35B SEE ATTACHMENT 2

14. ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.

Narrative: This facility provides secondary treatment and enhanced nutrient removal. Treatment is provided by screening, grit removal, primary clarification, anaerobic/anoxic/aerobic units, secondary clarification, chlorination and dechlorination. Biosolids are treated by anaerobic digestion, gravity belt thickening, and centrifuge dewatering prior to disposal off site. Biosolids can also be land applied as a back-up plan by taking the biosolids to the Atlantic STP for land application.

SEE ATTACHMENT 3

15. DISCHARGE DESCRIPTION: Describe each discharge originating from this facility.

SEE ATTACHMENT 4

16. COMBINED TOTAL FLOW:

TOTAL: 30.1 MGD (for public notice)

NONPROCESS/RAINFALL DEPENDENT FLOW: .086 MG (Est.)

DESIGN FLOW: 30 MGD (MUN.)

17. STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:
(Check all which are appropriate)

- ☒ State Water Control Law
- ☒ Clean Water Act
- ☒ VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- ☒ EPA NPDES Regulation (Federal Register)
- ☒ EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
- ☒ Water Quality Standards (9 VAC 25-260-5 et seq.)
- ☐ Wasteload Allocation from a TMDL or River Basin Plan

18. EFFLUENT LIMITATIONS/MONITORING: Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE:** Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

SEE ATTACHMENTS 6 and 11 Chlorine Conditions and Sludge Condition

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE:** Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE:** Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit; the actual conditions for the permit are to be included under Attachment 6.

SEE ATTACHMENT 8

22. **SLUDGE DISPOSAL PLAN:** Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Sludge from this facility is dewatered with centrifuges and then burned in HRSD incinerators, primarily at Boat Harbor STP. The primary back-up plan is to haul the sludge to the HRSD James River or York River STPs for composting by Environmental Solutions, Inc. (Sunoco Facility) in Richmond. The secondary back-up plan is to haul the sludge to the HRSD Atlantic Plant for land application.

23. **MATERIAL STORED:** List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

The materials stored on site include sodium hypochlorite, sodium bisulfate, sodium hydroxide, ferric chloride, polymer, fuel oil, propane, ammonia, gasoline and diesel fuel. The materials are either stored in buildings with drains connected to the treatment system or are in contained areas. Fuel tanks are double walled.

24. **RECEIVING WATERS INFORMATION:** Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.)]. Use **9 VAC 25-260-140 C (introduction and numbered paragraph)** to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied. Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

25. **303(d) Listed Segments:** Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

This facility discharges directly to Hampton Roads Harbor. This receiving stream segment has been listed in Category 5 of the 305(b)/303(d) list for non-attainment of Aquatic Plants, Estuarine Bioassessments, Dissolved Oxygen, PCB in Fish Tissue. A TMDL has not been prepared or approved for this stream segment. The permit contains a TMDL reopener clause which will allow the it to be modified, in compliance with section 303(d)(4) of the Act once a TMDL is approved.

26. **CHANGES TO PERMIT:** Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 11

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

TOTAL SCORE:

N/A - This is a municipal facility.

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is not addressed in any planning document but will be included when the plan is updated.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and noted how resolved.

The VDH waived their right to comment and/or object the adequacy of the draft permit.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA has no objections to the adequacy of the draft permit. Letter dated 11/27/07.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION:

Comment Period:	Start Date	10/31/07
	End Date	11/30/07

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Deanna Austin at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2008 E-mail: ddaustin@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:

Reissuance of this permit was delayed causing an administrative continuance on 11/4/04. At that time, Clyde Gantt (DEQ-TRO Permits) was the permit writer for the facility. The delay of reissuance was caused by HRSD's concern with nutrients and reporting practices concerning significant figures. The significant figures guidance (03-2008 and 04-2020) was addressed by the SWCB ruling in November 2005. The ruling at that time maintained that the guidance was valid and appropriate. The nutrient guidance issued 5/24/05 (05-2009) was used to draft a fact sheet and permit dated 3/8/06 by Clyde Gantt. Mr. Gantt left on military leave in the spring of 2006 and the permit was reassigned to Deanna Austin (DEQ-TRO Permits).

The significant figures guidance was then challenged again in another case at the SWCB and a ruling was made in September 2006. Based upon the ruling, the significant figures memo (No. 04-2020) has been updated to include new permit language. New significant figures guidance (06-2016) became effective 11/2/06 in response to the ruling by the SWCB in September 2006. The guidance document 06-2016 has been used to rewrite the latest draft permit dated 8/10/07 by Deanna Austin.

Permit regulation 9 VAC 25-820-10 (General Virginia Pollutant Discharge Elimination System (VPDES) Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia) became effective November 1, 2006. The regulation governs facilities holding individual permits that discharge total nitrogen or total phosphorus to the Chesapeake Bay and its tributaries and replaces guidance document 05-2009. HRSD applied for coverage under the Watershed GP and is now covered under VPDES permit VAN040090 for the James River Aggregate Nutrient Discharge. The Nansemond STP plant nutrient outfall (same as outfall 001) is labeled outfall 504 under the Watershed GP.

The development of this draft permit could not be processed until DEQ CO guidance was developed and approved for the implementation of the Nutrient Watershed permit. The guidance "Permitting Considerations for Facilities in the Chesapeake Bay Watershed" (07-2008) was approved on 5/16/07. Permit development for the HRSD permits could begin again on this date using both the nutrient guidance (07-2008) and the significant figures guidance (06-2016).

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Facility:	HRSD - NANSEMOND STP
County/city:	SUFFOLK

VPDES NO.	VA0081299
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**DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1**

Inspection date:	February 28, 2007	Date form completed:	March 9, 2007
Inspection by:	Jennifer J. LaCroix	Inspection agency:	DEQ/TRO
Time spent:	7 hours	Announced Inspection:	[] Yes [x] No
Reviewed by:	Kenneth T. Raum <i>KTR</i>	Photographs taken at site?	[x] Yes [] No
Present at inspection:	Russell Craig - Plant Superintendent, Bill Balzer - Plant Manager Steve Long & Mark Kidd - DEQ		
FACILITY TYPE:		FACILITY CLASS:	
(x) Municipal		(x) Major	
() Industrial		() Minor	
() Federal		() Small	
() VPA/NDC		() High Priority () Low Priority	
TYPE OF INSPECTION:			
Routine	x	Reinspection	Compliance/assistance/complaint
Date of previous inspection:	01/11/06	Agency:	DEQ/TRO
Population Served:	~120,000	Connections Served	Varies
Last Month Average Influent: Jan 2007	BOD ₅ (mg/l) 228	TSS (mg/l) 165	Flow (MGD) 18.69 pH (su) 6.9
Other: T-P = 8 mg/L			
Last Month Average Effluent: Jan 2007	BOD ₅ (mg/l) 9	TSS (mg/l) 12	Flow (MGD) 18.69 pH (su) 7.0 - 7.3
Other: T-P = 1 mg/L, T-N = 13 mg/L			
Last Quarter Average Effluent:	BOD ₅ (mg/l)	TSS (mg/l)	Flow (MGD) pH (su)
Other:			
Data verified in preface:	Updated?	NO CHANGES?	x
Has there been any new construction?	YES	NO	x
If yes, were the plans and specifications approved?	YES	NO	x
DEQ approval date:			
COPIES TO: (x) DEQ/TRO; (x) DEQ/OWCP; (x) OWNER; () OPERATOR; () EPA-Region III; () Other:			

PLANT OPERATION AND MAINTENANCE

1.	Class/number of licensed operators:	I	12	II	2	III	3	IV		Trainee	
2.	Hours per day plant manned?	24 hours									
3.	Describe adequacy of staffing	GOOD	x	AVERAGE		POOR					
4.	Does the plant have an established program for training personnel	YES							x	NO	
5.	Describe the adequacy of training	GOOD	x	AVERAGE		POOR					
6.	Are preventative maintenance tasks scheduled	YES							x	NO	
7.	Describe the adequacy of maintenance	GOOD	x	AVERAGE		POOR					
	Does the plant experience any organic/hydraulic overloading?	YES								NO	x
8.	If yes, identify cause/impact on plant										
9.	Any bypassing since last inspection?	YES								NO	x
10.	Is the standby electrical generator operational?	YES					x	NO		NA	
	How often is the standby generator exercised?	1/month									
11.	Power transfer switch?	1/month		ALARM SYSTEM?			weekly				
12.	When was the cross connection last tested on the potable supply?								12/7/06		
13.	Is the STP alarm system operational?	YES					x	NO		NA	
14.	Is sludge disposed in accordance with an approved SMP	YES					x	NO		NA	
	Is septage received by the facility?	YES							x	NO	
15.	Is septage loading controlled?	YES					x	NO		NA	
	Are records maintained?	YES					x	NO		NA	

OVERALL APPEARANCE OF FACILITY

GOOD

x

AVERAGE

POOR

COMMENTS:

PLANT RECORDS

WHICH OF THE FOLLOWING RECORDS DOES THE PLANT MAINTAIN?

1.	Operational logs for each process unit	YES	x	NO		NA	
	Instrument maintenance and calibration	YES	x	NO		NA	
	Mechanical equipment maintenance	YES	x	NO		NA	
	Industrial waste contribution (municipal facilities)	YES	x	NO		NA	

WHAT DOES THE OPERATIONAL LOG CONTAIN

2.	Visual Observations	x	Flow Measurement	x	Laboratory Results	x
	Process Adjustments	x	Control Calculations	x	Other?	

COMMENTS:

WHAT DO THE MECHANICAL EQUIPMENT RECORDS CONTAIN?

3.	MFG. Instructions	x	As Built Plans/specs	x	Spare Parts Inventory	x
	Lube Schedules	x	Other?		Equipment/parts Suppliers	x

COMMENTS:

WHAT DO INDUSTRIAL WASTE CONTRIBUTION RECORDS CONTAIN? (MUNICIPAL)

4.	Waste Characteristics	x	Impact on Plant	x
	Location and Discharge Types	x	Other?	

COMMENTS: Pre-treatment and Industrial program records at main office.

WHICH OF THE FOLLOWING RECORDS ARE AT THE PLANT & AVAILABLE TO PERSONNEL?

5.	Equipment Maintenance Records	x	Industrial Contributor Records	
	Operational Log	x	Sampling/testing Records	x
			Instrumentation Records	x

6.	Records not normally available to personnel at their location:	Pre-treatment/Industrial records at main office.					
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7.	Were the records reviewed during the inspection	YES	x	NO	
8.	Are records adequate and the O&M manual current?	YES	x	NO	
9.	Are the records maintained for the required 3-year time period	YES	x	NO	

COMMENTS: Records are mostly maintained electronically and sent to main office for back up.

The Stormwater Pollution Prevention Plan was briefly reviewed on site. The plan was last updated May 2006 and contained a signed certification statement. The last Comprehensive Site Compliance Evaluation was performed October 2006. Inspections are performed at least monthly; records for 2002 through February 2007 were reviewed. Training was performed September 2006 and documented.

SAMPLING

1.	Are sampling locations capable of providing representative samples?	YES	<input checked="" type="checkbox"/>	NO	
2.	Do sample types correspond to VPDES permit requirements?	YES	<input checked="" type="checkbox"/>	NO	
3.	Do sampling frequencies correspond to VPDES permit requirements?	YES	<input checked="" type="checkbox"/>	NO	
4.	Does plant maintain required records of sampling?	YES	<input checked="" type="checkbox"/>	NO	
5.	Are composite samples collected in proportion to flow?	YES	<input checked="" type="checkbox"/>	NO	NA
6.	Are composite samples refrigerated during collection?	YES	<input checked="" type="checkbox"/>	NO	NA
7.	Does the plant run operational control tests?	YES	<input checked="" type="checkbox"/>	NO	NA

COMMENTS:

TESTING

1.	Who performs the testing?	Plant	<input checked="" type="checkbox"/>	Central Lab	<input checked="" type="checkbox"/>	Commercial Lab	
	Name:						

IF THE PLANT PERFORMS ANY TESTING, PLEASE COMPLETE QUESTIONS 2-4

2.	Which total residual chlorine method is used?	Hach Pocket Colorimeter
3.	Does plant appear to have sufficient equipment to perform required tests?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
4.	Does testing equipment appear to be clean and/or operable?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

COMMENTS:

FOR INDUSTRIAL FACILITIES WITH TECHNOLOGY BASED LIMITS ONLY

1.	Is the production process as described in permit application? If no, describe changes in comments section.	YES		NO		NA	<input checked="" type="checkbox"/>
2.	Are products/production rates as described in the permit application? If no list differences in comments section.	YES		NO		NA	<input checked="" type="checkbox"/>
3.	Has the Agency been notified of the changes and their impact on plant effluent? Date agency notified:	YES		NO		NA	<input checked="" type="checkbox"/>

COMMENTS:

PROBLEMS IDENTIFIED AT LAST INSPECTION:		CORRECTED	NOT CORRECTED
	Include a certification statement and signature with the Storm Water Pollution Prevention Plan Comprehensive Site Compliance Evaluation.	x	

SUMMARY

INSPECTION COMMENTS:	
	Facility was clean and well maintained.
	Storm Water Pollution Prevention Plan was well organized and contained all required components.
	HRSD-Nansemond STP staff should be commended on their continual professionalism and exceptional operation of this plant.
COMPLIANCE RECOMMENDATIONS FOR ACTION	
	None.

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART II

Unit Process Evaluation Summary Sheet*

UNIT PROCESS	APPLICABLE	COMMENTS
SEWAGE PUMPING		
FLOW MEASUREMENT		
SCREENING/COMMINUTION	X	
GRIT REMOVAL	X	
FLOW EQUALIZATION		
PONDS/LAGOONS		
OIL/WATER SEPARATOR		
PRIMARY SEDIMENTATION	X	
ANAEROBIC / ANOXIC TANKS	X	
ACTIVATED SLUDGE AERATION	X	
ROTATING BIOLOGICAL CONTACTORS		
SEPTIC TANK/SAND FILTER / IMHOFF TANK		
SECONDARY SEDIMENTATION	X	
RAPID MIX/FLOCCULATION		
TERTIARY SEDIMENTATION		
FILTRATION		
MICRO-SCREENING		
ACTIVATED CARBON ADSORPTION		
CHLORINATION	X	
DECHLORINATION	X	
OZONATION		
ULTRAVIOLET DISINFECTION		
POST AERATION		
LAND APPLICATION-EFFLUENT		
EFFLUENT/PLANT OUTFALL	X	
SLUDGE PUMPING	X	
FLOTATION THICKENING (DAF)		
GRAVITY THICKENING	X	
AEROBIC DIGESTION		
ANAEROBIC DIGESTION	X	
LIME STABILIZATION		
CENTRIFUGATION	X	
PRESSURE FILTRATION (SLUDGE)		
VACUUM FILTRATION		
DRYING BEDS		
THERMAL TREATMENT		
INCINERATION		
COMPOSTING		

STANDARD COMMENTS:

1. UNIT NEEDS ATTENTION
2. ABNORMAL INFLUENT/EFFLUENT
3. EVIDENCE OF EQUIPMENT FAILURE
4. UNAPPROVED MODIFICATION OR TEMPORARY REPAIR
5. EVIDENCE OF PROCESS UPSET

*REFER TO INDIVIDUAL UNIT PROCESS EVALUATION FORMS

UNIT PROCESS

SCREENINGS/COMMINUTION

				YES	NO	NA
1.	Number of manual units	1				
2.	Number of mechanical units	3				
3.	Number manual units in operation	0				
4.	Number of mechanical units in operation	1				
5.	Bypass channel provided			x		
	Bypass channel in use				x	
6.	Area adequately ventilated			x		
7.	Alarm system for equipment failure and/or overloads			x		
8.	Proper flow distribution between units					x
9.	How often are units checked and cleaned	cleaned automatically, checked periodically				
10.	Cycle of operation	5 minutes on, 10 minutes off.				
11.	Volume of screenings removed	19 ft ³ /day Jan. 2007				
GENERAL CONDITION:		GOOD	x	FAIR		POOR

COMMENTS:

UNIT PROCESS

GRIT REMOVAL

				YES	NO	NA
1.	Number of units (Grit Chambers)	2				
2.	Number units in operation	1				
3.	Operation of grit collection equipment:					
	Manual	Time Clock	x	Continuous Duty		
4.	Area adequately ventilated			x		
5.	Proper flow distribution between units					x
6.	Daily volume of grit removed	20 ft ³ /day Jan. 2007				
7.	All equipment operable			x		
GENERAL CONDITION:		GOOD		FAIR	x	POOR

COMMENTS:

Pumps from chambers send grit to cyclones (4), with typically one cyclone in operation at a time. Grit is loaded into roll off container for disposal.

UNIT PROCESS

SEDIMENTATION

	PRIMARY	x	SECONDARY		TERTIARY		YES	NO	NA
1.	Number of units				4				
2.	Number units in operation				2 (Circular Units) 1 (Rectangular Units)				
3.	Proper flow distribution between units						x		
4.	Sludge collection system working properly?						x		
5.	Signs of short circuiting and/or overloads							x	
6.	Effluent weirs level						x		
7.	Effluent weirs clean						x		
8.	Scum collection system working properly						x		
9.	Influent/effluent baffle system working properly						x		
10.	Chemical Used						Chemical Addition		
11.	Effluent characteristics			Units are enclosed.					
GENERAL CONDITION:		GOOD		x		FAIR		POOR	
COMMENTS:		Scum collected and sent to solids handling.							

UNIT PROCESS

SLUDGE PUMPING

	YES	NO	NA
1.	Number of pumps		
2.	Number pumps in operation		
		4 for circular basins 4 for square basins	
TYPE OF SLUDGE PUMPED:			
3.	Primary		
	x	Waste Activated	
		Return Activated	
		Combination	
4.	TYPE OF PUMP:		
	Centrifugal:	Plunger	Diaphragm
		Screwlift	Prog. Cavity
5.	MODE OF OPERATION:		
	Manual	Automatic	Other:
6.	Sludge volume pumped:		
	0.261 MGD Primary Biosolids, Jan. 2007		
7.	Alarm system for equipment failures/overloads operational?		
GENERAL CONDITION:		GOOD	
	x	FAIR	
COMMENTS:		POOR	

UNIT PROCESS:

ANAEROBIC/ANOXIC TANKS

								YES	NO	NA
1.	Type system:	In-line, Parallel	x	Side-line		Spill Pond				
2.	Number cells:	7 Trains								
3.	What unit process does this unit precede?	Activated Sludge Aeration								
4.	Is volume adequate:							x		
5.	Mixing?	None		Diffused Air		Fixed Mechanical	x			
	Floating Mechanical			Other						
6.	Condition of mixing equipment	GOOD	x	AVERAGE		POOR				
	HOW DRAWN OFF?									
	Pumped from?	Surface		Sub-surface		Adjustable				
7.	Weir?	Surface	x	Sub-surface						
8.	Is containment structure in good condition?							x		

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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COMMENTS:	<p>All seven trains in operation.</p> <p>Each train has 6 separate stages with 2 used for anaerobic treatment and 4 used for anoxic treatment. All stages are in use with each of the seven trains.</p> <p>Used for nutrient removal. Anoxic zone provides for de-nitrification which must occur prior to phosphorous removal. Anaerobic zone provides for phosphorous uptake. Phosphorous removal occurs in activated sludge aeration when solids are wasted.</p>
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UNIT PROCESS

ACTIVATED SLUDGE

		YES	NO	NA
1.	Number of aeration units	5 (2 Large, 3 Small)		
2.	Number units in operation	All units in operation.		
3.	Mode of operation:	Conventional		
4.	Proper flow distribution between units	x		
5.	Foam control operational	x		
6.	Scum control present	x		
7.	Dead spots		x	
8.	Excessive foam		x	
9.	Poor aeration		x	
10.	Excessive scum		x	
11.	Aeration equipment malfunction		x	
12.	Other problem(s):			x
13.	Effluent control devices working properly (OXIDATION DITCHES)			x
14.	MIXED LIQUOR CHARACTERISTICS AS AVAILABLE: Jan. 2007			
	pH (s.u.)	6.9-7.2	MLSS (mg/l)	2315
			DO (mg/l)	~ 3 for all (2/28/07) *
	Odor	Normal	Settleability (ml/l)	135 (30 min)
	Color	Brown		
15.	RETURN/WASTE SLUDGE RATES:			
	Return Rate	72% 14.19 MGD	Waste Rate	0.569 MGD
			Waste Frequency	Continuous
16.	AERATION SYSTEM CONTROL:			
	Time Clock		Manual Feed	Continuous Feed
				x
	Other:			

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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COMMENTS:	<p>* Columns 17 and 18 for DO on the Activated Biosolids Sheet T-4B of the Monthly Plant Operations Report contained no data for January 2007. However, the DO meters were viewed on site during the inspection and the data recorded on this report is from that viewing.</p> <p>The DO meters are currently being moved to different locations in the aeration tanks.</p>
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UNIT PROCESS

SEDIMENTATION

	PRIMARY		SECONDARY	x	TERTIARY		YES	NO	NA
1.	Number of units				5				
2.	Number units in operation				2 (Large)				
3.	Proper flow distribution between units						x		
4.	Sludge collection system working properly?						x		
5.	Signs of short circuiting and/or overloads							x	
6.	Effluent weirs level						x		
7.	Effluent weirs clean						x		
8.	Scum collection system working properly						x		
9.	Influent/effluent baffle system working properly						x		
10.	Chemical Used			Chemical Addition				x	
11.	Effluent characteristics								
GENERAL CONDITION:		GOOD		x	FAIR		POOR		

COMMENTS:

UNIT PROCESS

SLUDGE PUMPING

							YES	NO	NA
1.	Number of pumps				6				
2.	Number pumps in operation				2				
3.	TYPE OF SLUDGE PUMPED								
	Primary		Waste Activated		x	Other:			
	Secondary		Return Activated		x	Combination			
4.	TYPE OF PUMP:		Plunger		Diaphragm				
	Centrifugal:		x	Screwlift		Prog. Cavity			
5.	MODE OF OPERATION:		Manual		RAS	Automatic	WAS	Other:	
6.	Sludge volume pumped:		Return Activated Sludge: 14.19 MGD Waste Activated Sludge: 0.569 MGD						
7.	Alarm system for equipment failures/overloads operational?						x		
GENERAL CONDITION:		GOOD		x	FAIR		POOR		

COMMENTS:

UNIT PROCESS:

CHLORINATION

		YES	NO	NA
1.	Number of chlorination pumps?	5		
2.	Number pumps in operation? (Pumps rotate)	1		
3.	Number of hypochlorite tanks?	4		
4.	Number chlorine contact tanks	4		
5.	Number chlorine contact tanks in operation	2		
6.	Proper flow distribution between units?	x		
HOW IS CHLORINE INTRODUCED INTO THE WASTE STREAM?				
7.	Perforated Diffuser	x	Injector w/single entry point	Tablet Feeder
8.	Chlorine residual in contact basin effluent (mg/l)	1.55 @ 1115, 2/28/07		
9.	Applied chlorine dosage (lbs/day)	1465, average Jan. 2007		
10.	Contact basin adequately baffled?	x		
11.	Adequate ventilation in chlorine cylinder storage area?	x		
12.	Adequate ventilation in chlorine equipment room?			x
13.	Proper safety precautions used?			x
GENERAL CONDITION:		GOOD	x	FAIR
COMMENTS:		The TRC for the chlorine contact tank was sampled and analyzed in the lab by Ed Pulliam; the result was 1.55 mg/L. The effluent for one of the chlorine contact tank was also sampled and analyzed by Steve Long for Total Residual Chlorine. The TRC result was 1.49 mg/L @ 1226.		

		YES	NO	NA
UNIT PROCESS:		FLOW MEASUREMENT		
INFLUENT	INTERMEDIATE	EFFLUENT	x	
1.	Type of measuring device	Parshall Flume/Ultrasonic Recorder		
2.	Average reading?	18.69 MGD Jan. 2007		
3.	Bypass channel		x	
4.	Bypass channel metered?			x
5.	Return flow discharged upstream of the meter?	x		
5.	Identify:	Varies		
6.	Device operating properly?	x		
7.	Date of last calibration?	12/16/06		
EVIDENCE OF THE FOLLOWING PROBLEMS				
8.	Obstruction?		x	
8.	Grease?		x	
GENERAL CONDITION:		GOOD	x	FAIR
COMMENTS:		Flow meters are usually calibrated on a monthly basis.		

UNIT PROCESS:

DECHLORINATION

						YES	NO	NA		
	Dechlorination chemical used?									
1.	Sulfur Dioxide		Bisulfite	X	Other:					
2.	Number of pumps?				2					
3.	Number pumps in operation				1					
4.	Number of tanks?				4					
5.	Number contact tanks				1					
6.	Number contact tanks in operation					1				
7.	Proper flow distribution between units?							x		
	HOW IS CHEMICAL INTRODUCED INTO THE WASTE STREAM?									
8.	Perforated Diffuser	x	Injector w/single entry point		Tablet Feeder					
9.	Chlorine residual in basin effluent				<0.1 mg/l @ 1118, 2/28/07					
10.	Applied dechlorination dosage? lbs/day				528, average Jan. 2007					
11.	Control system operational?					x				
12.	Control system adjusted?	Automatic	x	Manual		Other:				
13.	Residual analyzer?					x				
14.	Contact basin adequately baffled?					x				
15.	Adequate ventilation in cylinder storage area?					x				
16.	Adequate ventilation in equipment room?					x				
17.	Proper safety precautions used?					x				

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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COMMENTS:	The TRC for the final effluent was sampled and analyzed in the lab by Ed Pulliam; the result was 0.09 mg/L (or <0.1 mg/L). The effluent for final effluent was also sampled and analyzed by Steve Long for Total Residual Chlorine. The TRC result was <0.1 mg/L @ 1244.
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UNIT PROCESS

EMERGENCY POND

										YES	NO	NA	
1.	Type	Aerated		Un aerated	x	Polishing							
2.	Number of cells	1											
3.	Number cells in operation	0											
4.	Operation of system												
	Series		Parallel		Other:								
5.	Color							Light Brown					
	Gray		Brown		Green		Other:						
EVIDENCE OF THE FOLLOWING PROBLEMS:													
	Vegetation in lagoon or dikes?								x				
	Rodents burrowing on dikes?									x			
	Erosion?									x			
	Sludge bars?									x			
	Excessive foam?									x			
6.	Floating material?									x			
7.	If aerated, are lagoon contents mixed adequately?										x		
8.	If aerated, is aeration system operating properly?										x		
9.	Odors:	Septic		Earthy		None		Other:			x		
10.	Fencing intact?								x				
11.	Grass maintained properly?								x				
12.	Level control valves working properly?								x				
13.	Effluent discharge elevation?	Top		Middle		Bottom	x						
14.	Freeboard	pond is empty											
15.	Appearance of effluent?	GOOD		FAIR		POOR							
	Are monitoring wells present?								x				
	Are wells adequately protected from runoff?								x				
16.	Are caps on and secured?								x				

GENERAL CONDITION:

GOOD

x

FAIR

POOR

COMMENTS:

UNIT PROCESS:

GRAVITY BELT THICKENER

						YES	NO	NA	
1.	Number of units		3						
2.	Number units in operation		2						
Type of sludge treated:				Combination					
3.	Primary	Waste Activated	x	Other:					
4.	Sludge fed how?	Continuous	x	Intermittent					
Solids concentration in the influent sludge		~1 - 2% Jan. 2007							
5.	Solids concentration in the thickened sludge		6.0% average, Jan. 2007						
6.	Signs of short-circuiting and/or overloading?					x			
7.	Effluent weirs level?						x		
8.	Sludge collection system working properly?				x				
9.	Influent/effluent baffle systems working properly?				x				
Chemical addition?				x					
10.	Chemical used?	SE 746	Dosage?	14 lbs/ton average, Jan. 2007					

GENERAL CONDITION:	GOOD		FAIR	x	POOR	
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COMMENTS:	The thickening process has been changed from the primary clarifiers to the GBTs, and from the GBTs straight to the digesters.
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UNIT PROCESS

ANAEROBIC DIGESTION

		YES	NO	NA
1.	Number of units	2		
2.	Number units in operation	2		
TYPE OF SLUDGE TREATED:				
3.	Primary	x	Waste Activated	Other:
TYPE OF DIGESTER:				
4.	Primary:		Standard Rate	High Rate
				x
			Secondary	
5.	Frequency of sludge application to digester(s):	Continuous		
6.	pH Adjustment provided?		x	
7.	pH adjustment utilized?			x
8.	Number of recirculation pumps	2		
9.	Number recirculation pumps in operation	2		
LOCATION OF SUPERNATANT RETURN:				
10.	Head		Primary	Recycle to Digester for complete mix
				x
11.	Supernatant return rate:	undetermined		
PROCESS CONTROL TESTING:				
	pH (s.u.)	6.8		
	Volatile Acids (mg/l)	61		
	Alkalinity (mg/l)	2125		
	Volatile Solids Reduction (%)	35		
12.	Temperature (°F)	99		
13.	Sludge retention time? days	19		
14.	Gas production rate?	182,900 ft ³ /day		
15.	Signs of overloading?		x	

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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COMMENTS:	Volatile acids to alkalinity ratio average 0.029. Small amount of foam observed on the digester roof controlled by a de-foamer.
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UNIT PROCESS

CENTRIFUGATION

YES NO NA

1.	Number of units	3					
2.	Number units in operation	1					
PURPOSE OF CENTRIFUGE							
3.	Thickening		Dewatering	x	Other:		
OPERATION OF EQUIPMENT							
4.	Manual		Automatic	x	Other:		
5.	Centrifuge run time	10.7 hrs average Jan. 2007					
6.	Volume of influent sludge flow: (gal/min)	183					
7.	Amount of cake produced: (lbs/day)	26,300 lbs/day average Jan. 2007					
SLUDGE SOLIDS							
8.	Influent (%)	2.46	Effluent (%)	21.8			
9.	Conditioning chemical fed:	SE 746					
10.	Conditioning chemical dose:	34 lbs/ton					
11.	Centrate return location:	head of plant					
12.	Signs of centrate return problems?						x

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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COMMENTS:	
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UNIT PROCESS

EFFLUENT/PLANT OUTFALL

								YES	NO	NA
1.	Type of outfall	Shore Based		Submerged		x				
TYPE IF SHORE BASED:										
2.	Wingwall		Headwall		Rip Rap		Pipe			
3.	Flapper valve present?									x
4.	Erosion of bank area?									x
5.	Effluent plume visible?									x
6.	Condition of outfall and the supporting structure? Submerged Outfall, not viewable.									
	GOOD		FAIR		POOR					
FINAL EFFLUENT, EVIDENCE OF FOLLOWING PROBLEMS?										
	Oil sheen?								x	
	Grease?								x	
	Sludge bar?								x	
	Turbid effluent?								x	
	Visible foam?								x	
7.	Unusual color?								x	

GENERAL CONDITION:	GOOD	x	FAIR		POOR	
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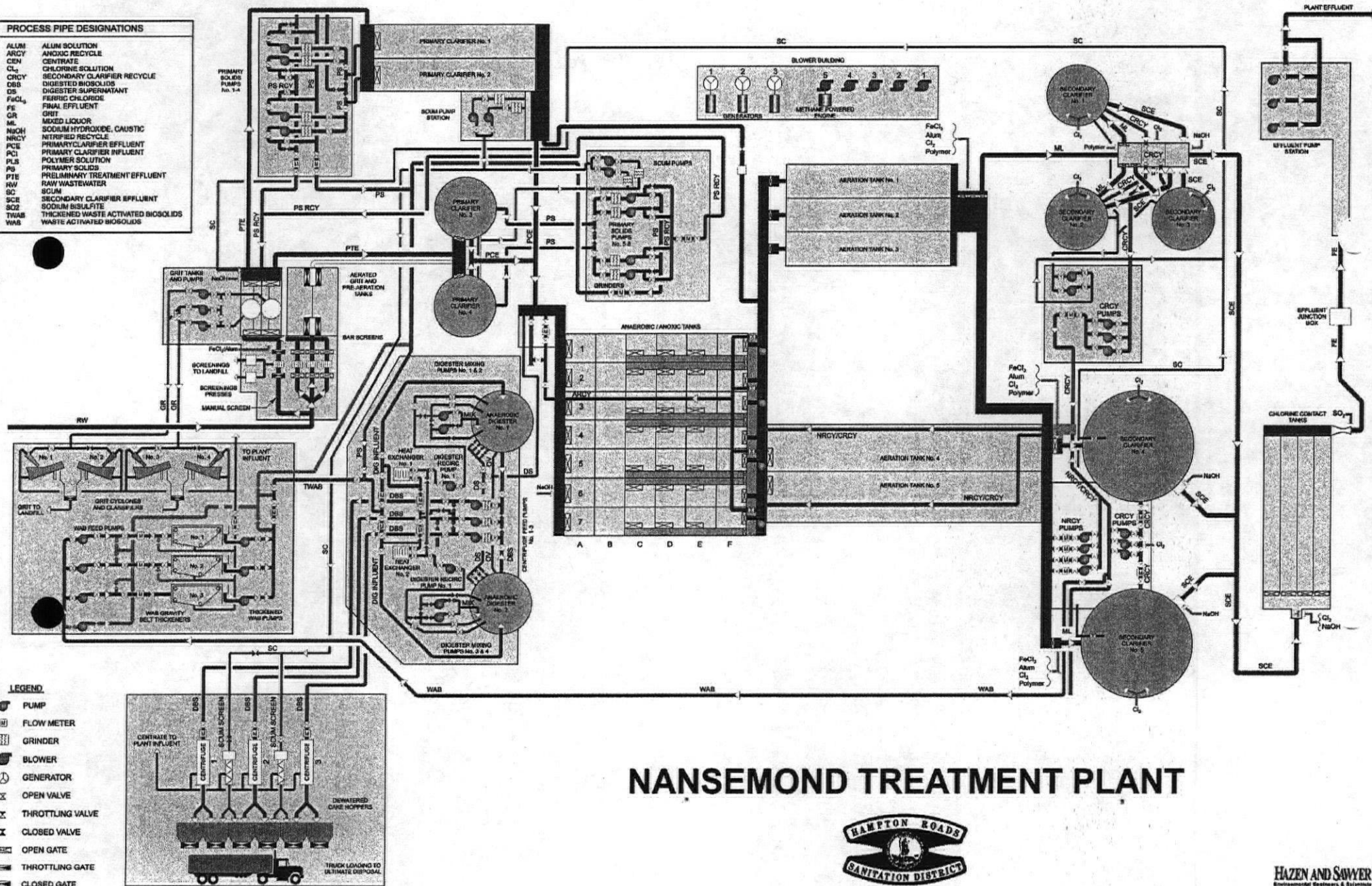
COMMENTS:	The effluent was sampled by Steve Long and sent to DCLS for analysis. The effluent pH was 6.91 s.u. @ 15.5°C @ 1246. The effluent TRC was <0.1 mg/L @ 1244. The effluent DO was read in situ and was 7.35 mg/L @ 15.4°C @ 1302.
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Nansemond Treatment Plant

PROCESS PIPE DESIGNATIONS

ALUM	ALUM SOLUTION
ARCY	ANOXIC RECYCLE
CEN	CENTRATE
CL ₂	CHLORINE SOLUTION
CRCY	SECONDARY CLARIFIER RECYCLE
DBS	DIGESTED BIOSOLIDS
DS	DIGESTER SUPERNATANT
FeCl ₃	FERRIC CHLORIDE
FE	FINAL EFFLUENT
GR	GRIT
ML	MIXED LIQUOR
NaOH	SODIUM HYDROXIDE, CAUSTIC
NRCY	NITRIFIED RECYCLE
PCE	PRIMARY CLARIFIER EFFLUENT
PCI	PRIMARY CLARIFIER INFLUENT
PLS	POLYMER SOLUTION
PS	PRIMARY SOLIDS
PTE	PRELIMINARY TREATMENT EFFLUENT
RW	RAW WASTEWATER
SC	SCUM
SCE	SECONDARY CLARIFIER EFFLUENT
SO ₂	SODIUM BISULFITE
THAB	THICKENED WASTE ACTIVATED BIOSOLIDS
WAB	WASTE ACTIVATED BIOSOLIDS



10:12 AM, 2/28/2007

Daily Plant Operations Report

Process Units in Service

Date 2/28/07, Wednesday

1/3

1/2

3/4

7/7

5/5

2/5

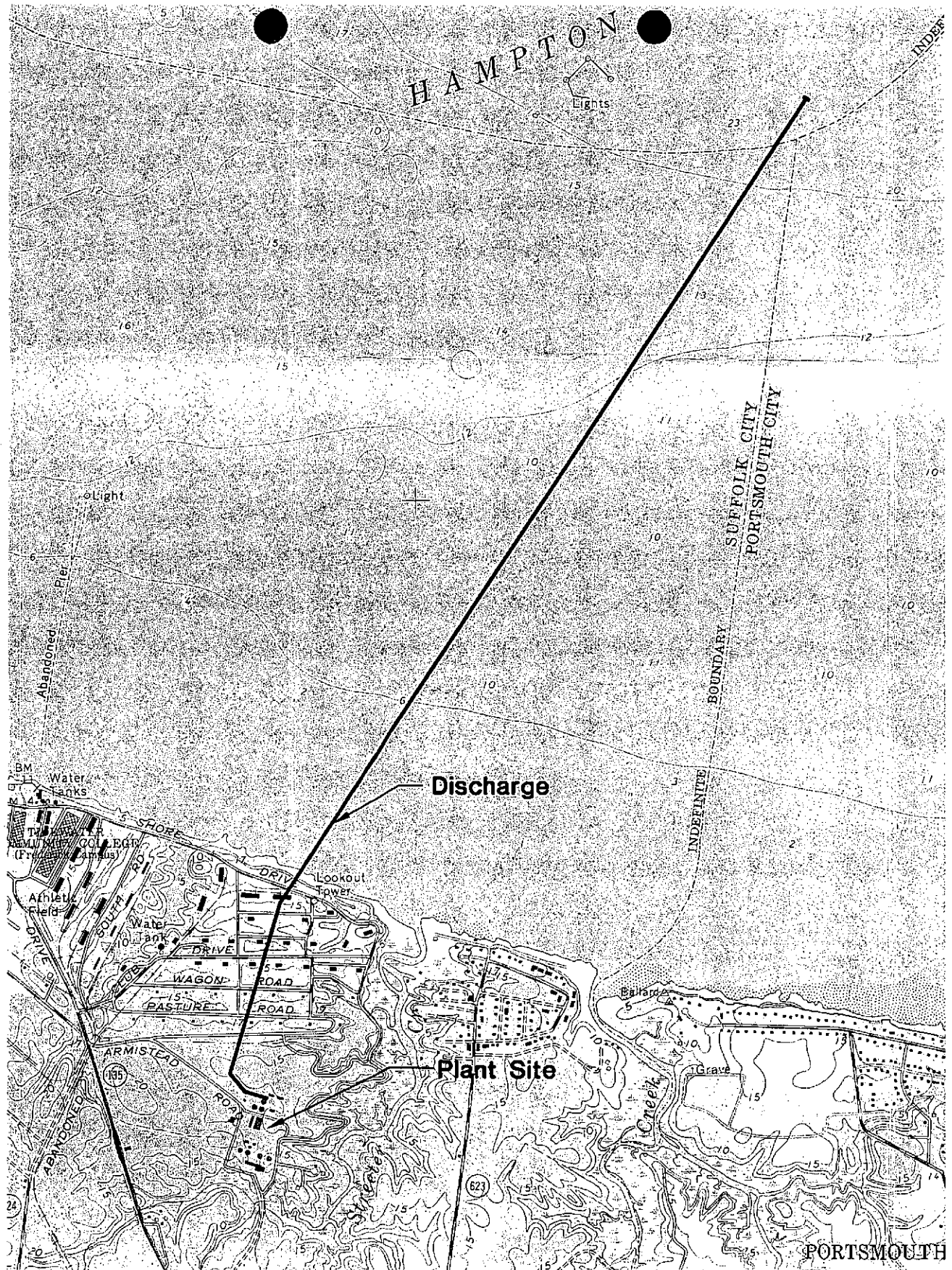
2/4

2/3

	Bar Screen #1	Bar Screen #2	Bar Screen #3	Vortex Grit Tank #1	Vortex Grit Tank #2	PC #1	PC #2	PC #3	PC #4	No ANAE/A NOX Tanks	No ANAE Stages per Tk	No ANOX Stages per TK	Aer Tank #1	Aer Tank #2	Aer Tank #3	Aer Tank #4	Aer Tank #5	SC #1	SC #2	SC #3	SC #4	SC #5	CT #1	CT #2	CT #3	CT #4	Odor Train No1	Odor Train No2	Odor Train No3
0000	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0100	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0200	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0300	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0400	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
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0600	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0700	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0800	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
0900	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
1000	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
1100	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
1200	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
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2100	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1
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0	0	0	1	1	0	0	1	1	1	7	2	4	1	1	1	1	1	0	0	0	1	1	0	1	0	1	1	0	1

ATTACHMENT 2

DISCHARGE LOCATION/TOPOGRAPHIC MAP

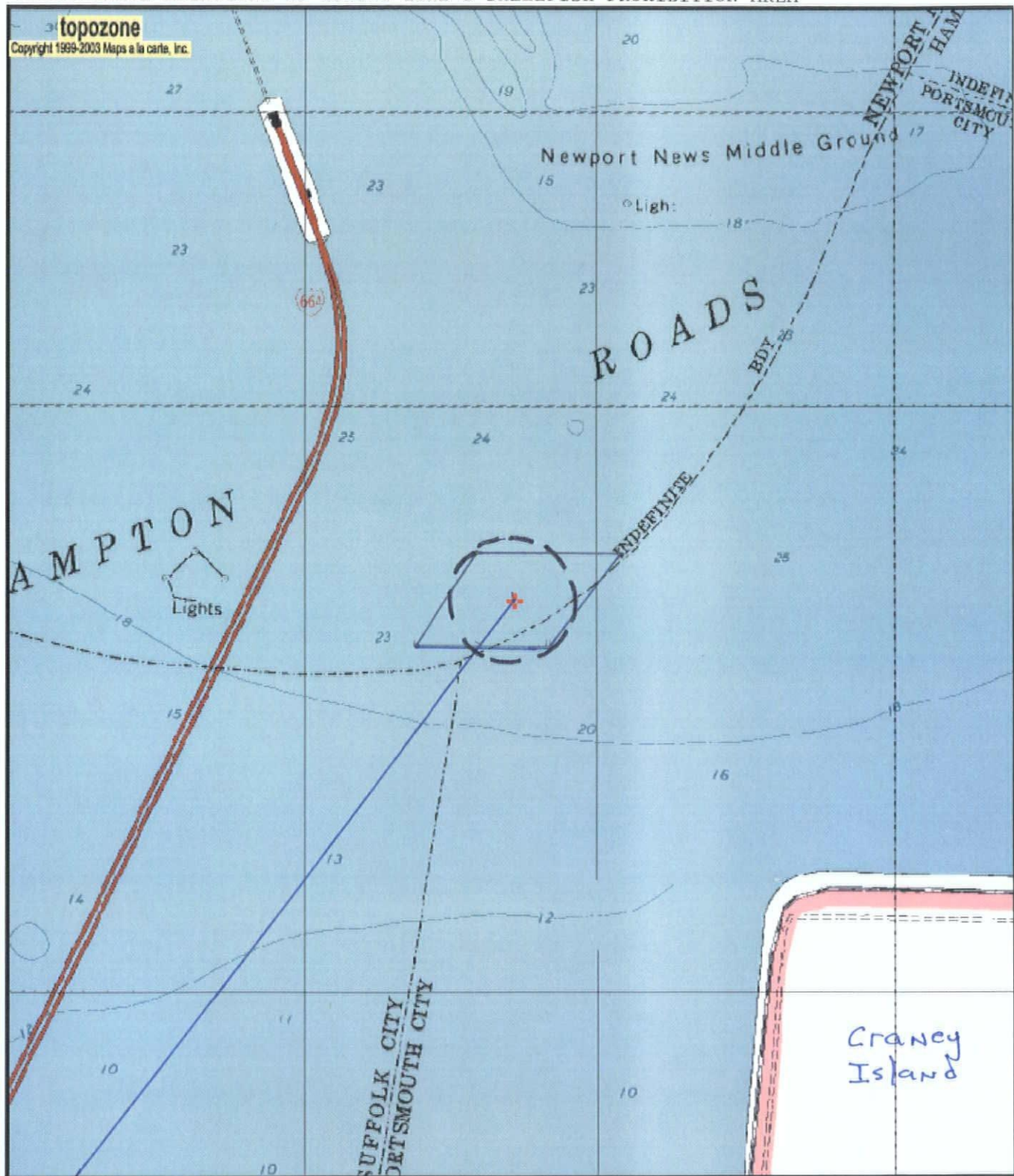


Location Map
for
Nansmond TP

HRSD NANSEMOND STP, VPDES PERMIT NO. VA81299

APPROXIMATE LOCATIONS OF MIXING ZONE & SHELLFISH PROHIBITION AREA

2-2



Mixing
Zone

0 0.3 0.6 0.9 1.2 1.5 km
0 0.2 0.4 0.6 0.8 1 mi

Map center is 36° 55' 59"N, 76° 23' 44"W (WGS84/NAD83)

Newport News South quadrangle

Projection is UTM Zone 18 NAD83 Datum

DSS Shellfish Prohibited Area

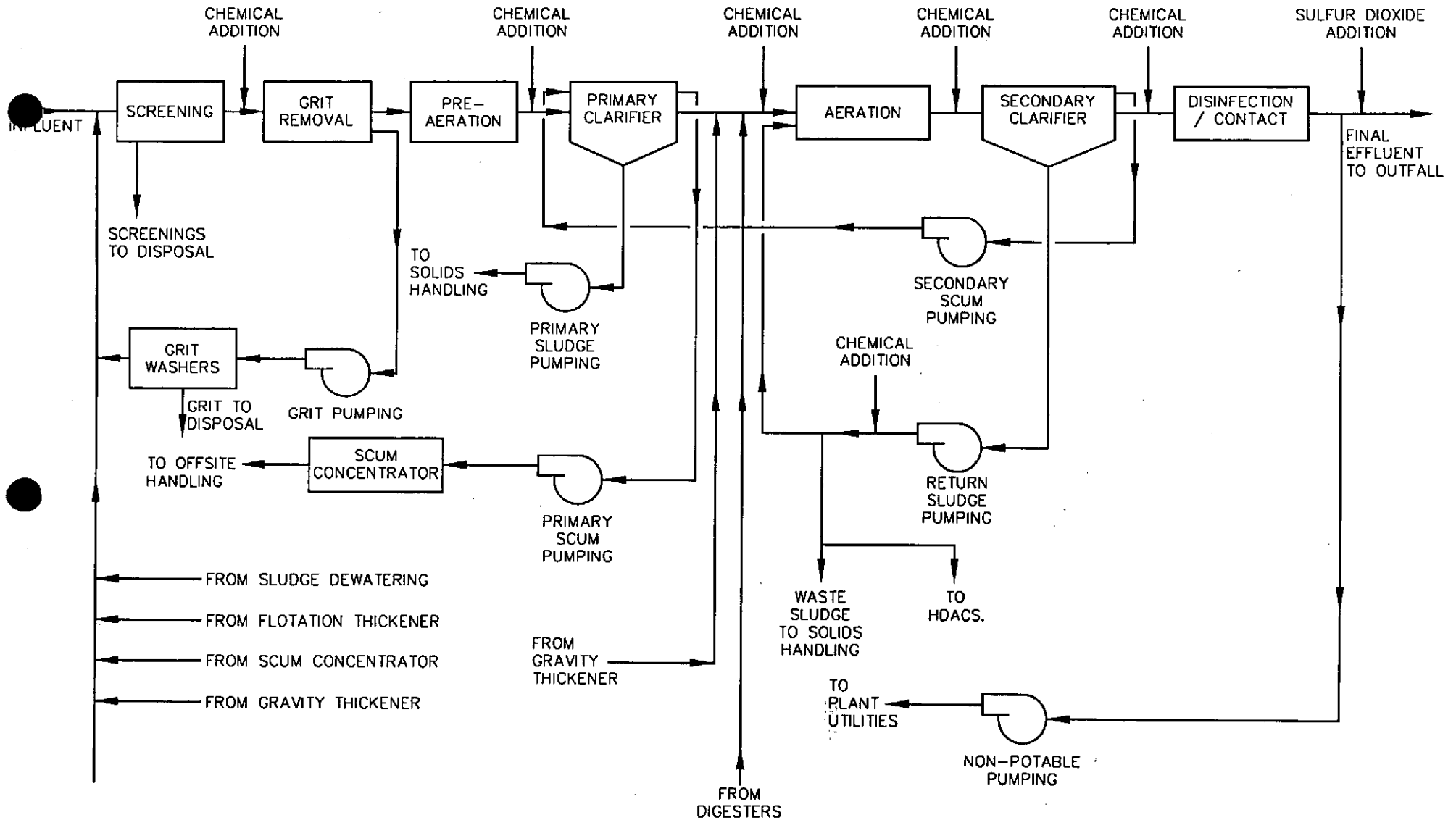


M=-10.712
G=-0.839

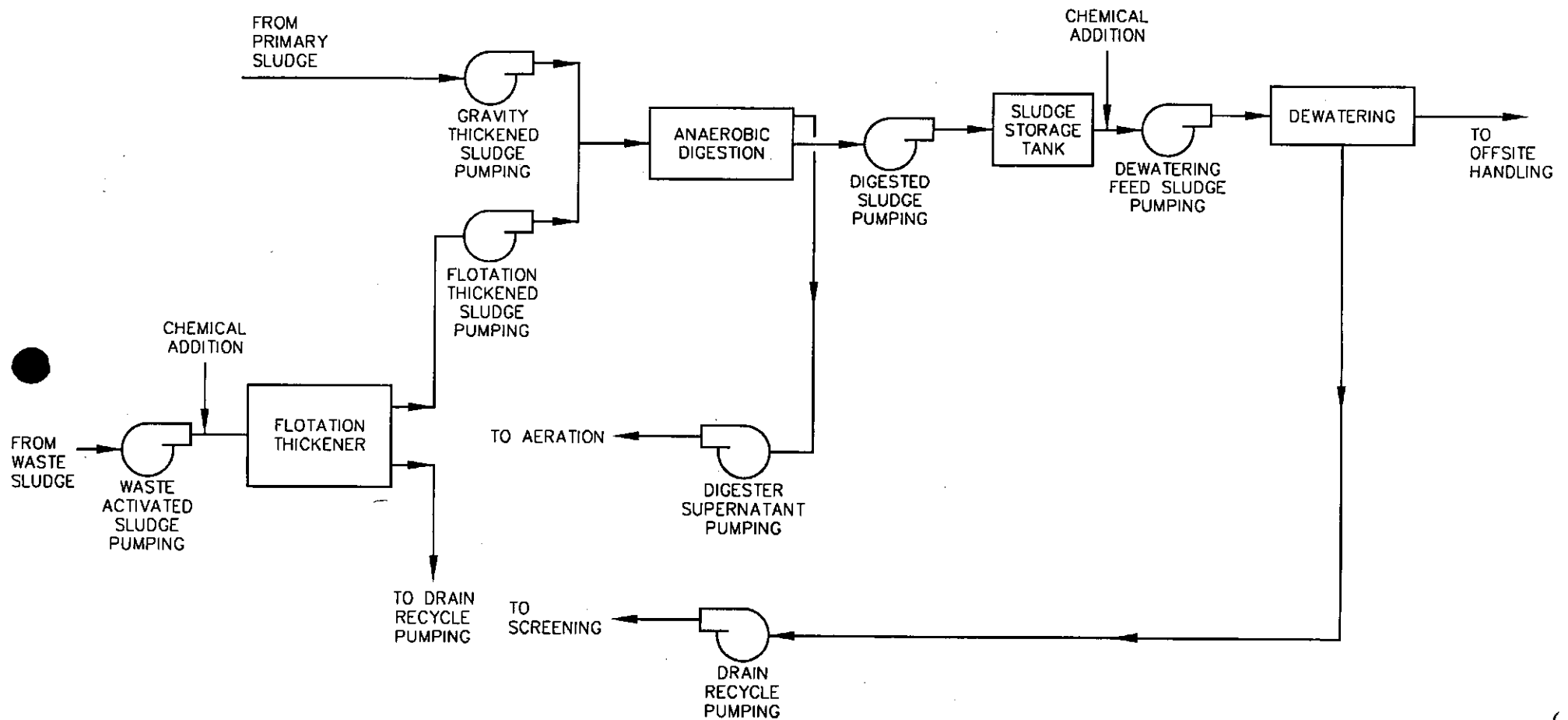
ATTACHMENT 3

SCHEMATIC/PLANS & SPECS/SITE MAP/
WATER BALANCE

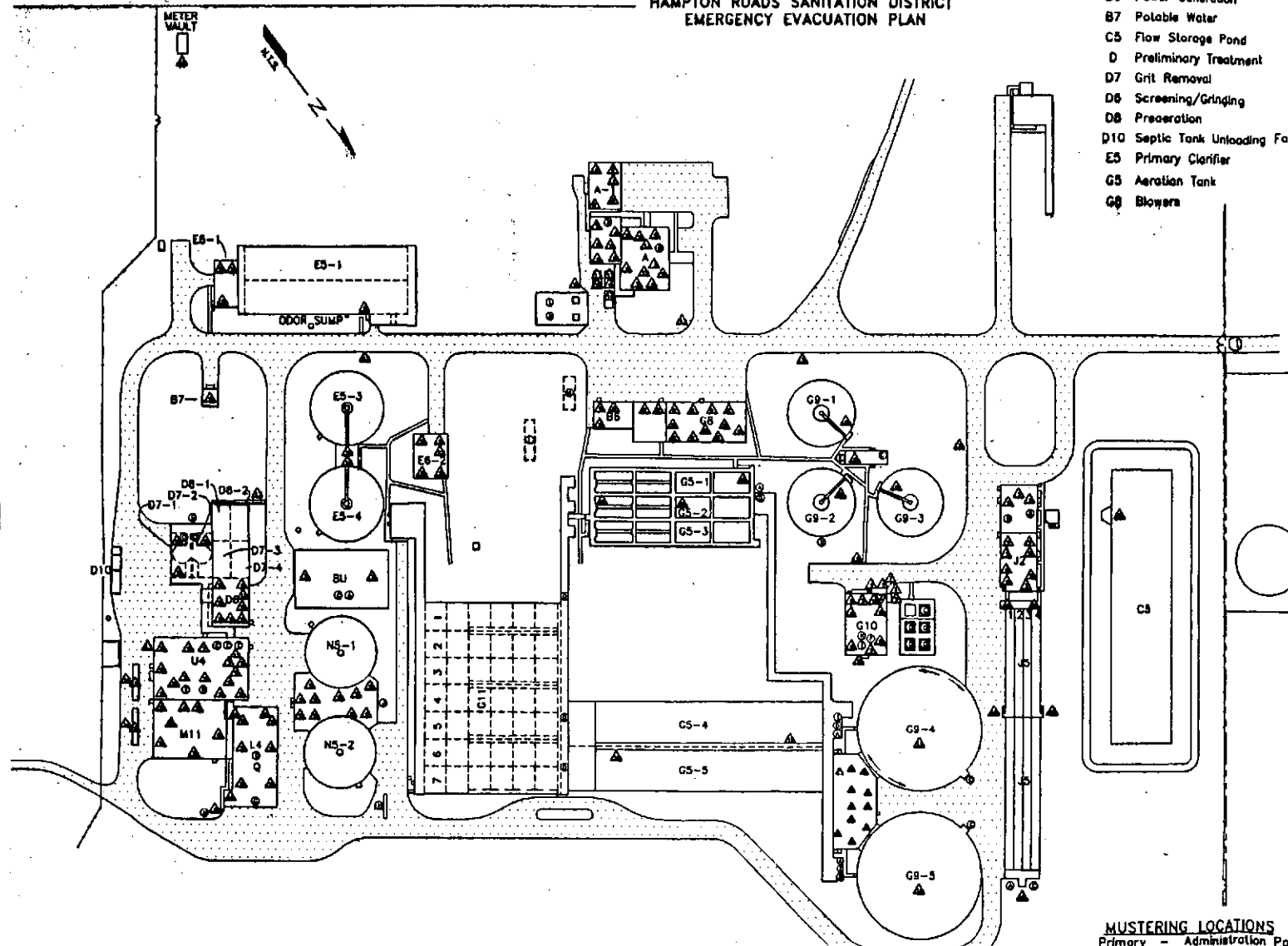
**NANSEMOND TREATMENT PLANT
SEWAGE TREATMENT FLOW DIAGRAM
HAMPTON ROADS SANITATION DISTRICT**



NANSEMOND TREATMENT PLANT
SOLIDS HANDLING FLOW DIAGRAM
HAMPTON ROADS SANITATION DISTRICT



**NANSEMOND TREATMENT PLANT
FACILITIES LOCATION DIAGRAM
CHEMICAL STORAGE AND SAFETY EQUIPMENT LOCATIONS
HAMPTON ROADS SANITATION DISTRICT
EMERGENCY EVACUATION PLAN**



KEY

- | | |
|------------------------------------|----------------------------------|
| A Administrative Facilities | G9 Secondary Clarifier |
| B6 Power Generation | G10 Return Sludge Pumping |
| B7 Potable Water | G11 Anoxic Tank |
| C5 Flow Storage Pond | J2 Disinfection Chemical Feeding |
| D Preliminary Treatment | J3 Disinfection Contact Tank |
| D7 Grit Removal | L4 Scum Disposal |
| D8 Screening/Grinding | M11 Gravity Belt Thickening |
| D8 Preceration | N5 Sludge Anaerobia Digester |
| D10 Septic Tank Unloading Facility | Q Solids Dewatering |
| E5 Primary Clarifier | U1 Odor Control |
| G5 Aeration Tank | U4 Odor Control Chemical |
| G6 Blowers | |

**KEY
(EQUIPMENT)**

- ▲ Air Line Respirator
- ▲ SCBA
- ▲ Cartridge Respirator
- ▲ First Aid
- ▲ Protective Equipment
- ▲ Telephone
- ▲ Eyewash/Shower
- ▲ Shower
- ▲ Fire Extinguisher
- ▲ Life Ring
- ▲ Emergency Supplies
- ▲ Alarms
- ▲ Fire Hydrants
- ▲ Hurricane Equipment
- ▲ Truck
- ▲ Auto Car
- ▲ Front End Loader
- ▲ Ear Plug (Defense Station)
- ▲ Fork Lift

**KEY
(CHEMICAL)**

- Ⓐ Chlorine
- Ⓑ Sulfur Dioxide
- Ⓒ Sodium Hydroxide
- Ⓓ Ferric Chloride/Ferrous Chloride
- Ⓔ Polymer Percol 727
- Ⓕ Polymer Percol 753
- Ⓖ Polymer DPA 766
- Ⓗ #2 Fuel Oil
- Ⓘ #1 Fuel Oil (Kerosene)
- Ⓢ Propane
- Ⓚ Ammonia
- Ⓛ Gasoline

MUSTERING LOCATIONS
Primary - Administration Parking Lot

ATTACHMENT 4

TABLE I - DISCHARGE/OUTFALL DESCRIPTION

TABLE I
NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	365600N/0762344W 2-JMS006.98	Publicly Owned Treatment works	Secondary with enhanced nutrient removal including bar screen, grit removal, primary clarification, anaerobic/anoxic/aerobic units, secondary clarification, chlorination and dechlorination.	30 MGD
002	365345N/0762558W	Stormwater	Retention Basin	0.043 MG
003	365340N/0762553W	Stormwater	Retention Basin	0.003 MG
004	365342N/0762544W	Stormwater	Retention Basin	0.005 MG
005	365349N/0762538W	Stormwater	Retention Basin	0.018 MG
006	365358N/0762532W	Stormwater	Retention Basin	0.017 MG

- (1) List operations contributing to flow
- (2) Give brief description, unit by unit
- (3) Give maximum 30-day average flow for industry and design flow for municipal

Stormwater flows based on calculation for an annual average rainfall of 48.86" with runoff coefficients of 0.9 for impervious surface and 0.5 for pervious surface. See stormwater flow calculation sheet attached.

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001

DESIGN FLOW: 30 MGD

Outfall Description: Municipal Discharge

SIC CODE: 4952

(X) Final Limits () Interim Limits Effective Dates - From: Issuance To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD) [a]	3		NL	NA	NA	NL	Cont.	TI & RE*
PH (S.U.)	1		NA	NA	6.0	9.0	1/Day	Grab
BOD5 (mg/l) [c][d]	1		30	45	NA	NA	3/Week	24 HC
BOD5 (kg/d) [d]	1	30	3406	5110	NA	NA	3/Week	24 HC
TSS (mg/l) [c][d]	1		30	45	NA	NA	3/Week	24 HC
TSS (kg/d) [d]	1	30	3406	5110	NA	NA	3/Week	24 HC
TRC (mg/l) [b][c]	2		0.20	2.4	NA	NA	1/Day	Grab
Total Phosphorus (mg/l)	3		NL	NA	NA	NA	1/Month	24 HC
Total Phosphorus (mg/l) Year to date [f]	3		NL	NA	NA	NA	1/Month	Calc
Total Phosphorus (mg/l) Calendar Year [e][f]	3		2.0	NA	NA	NA	1/Year	Calc
Fecal Coliform (n/cml) [d] [g]	2		200	NA	NA	NA	1/Week (Between 10 am & 4 pm)	Grab

*Totalizing, Indicating & Recording Equipment

NA = Not Applicable. NL = No limitation, however, reporting is required.

1 Year= January 1-December 31; reported for each full calendar year

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

In addition to any Total Nitrogen or Total Phosphorus concentration limits listed above, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN040090, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Watershed in Virginia.

- [a] The design flow of this treatment facility is 30 MGD. See Part I.C.5 for additional flow requirements.
- [b] See Part I.B. for additional chlorine monitoring instructions.
- [c] See Parts I.C.6 and I.C.7 for quantification levels and reporting requirements, respectively.
- [d] See Part I.C.8 for additional instructions regarding effluent monitoring frequencies.
- [e] Annual average limitation, based on a calculation of all samples collected during the calendar year.
- [f] See Part I.C.10. for additional instructions regarding Total Phosphorus
- [g] Fecal Coliform monthly average is calculated as a geometric mean.

2. There shall be no discharge of floating solids or visible foam in other than trace amounts.

3. At least 85% removal for BOD and TSS must be attained for this effluent.

The basis for the limitations codes are:

- 1. Technology (e.g., Federal Effluent Guidelines)
- 2. Water Quality Standards (9 VAC 25-260 et. seq.)
- 3. Best Professional Judgment

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALLS #002 - 006

Outfall Description: Stormwater Not Associated With Regulated Industrial Activity

SIC CODE: 4952

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF NOT ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY WHERE NO MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THESE OUTFALLS.

TABLE II - MUNICIPAL SLUDGE LIMITATIONS/MONITORING

OUTFALL # SP1 DESIGN FLOW: 30 MGD
 Outfall Description: Sludge from a Municipal Discharge
 SIC CODE: 4952

- a. Annual Sludge Production Data
 Report annual total amount of sludge produced,, in dry metric tons, including units and annual amount of sludge used or disposed in various methods (if applicable).
- b. Chemical Pollutant Limitations

(X) Final Limits Effective Dates - From: Permit Issuance To: Expiration

PARAMETER & UNITS	MONITORING REQUIREMENTS			
	MONTHLY AVERAGE MG/KG*	CEILING CONCENTRATION MAXIMUM MG/KG*	FREQUENCY	SAMPLE TYPE
Solids Total, Sludge As Percent (%)	NL	NA	1/Application	Composite
Total Kjeldahl Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Ammonia Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Nitrate Nitrogen (mg/kg)	NA	NL	1/Application	Composite
Total Phosphorus (mg/kg)	NA	NL	1/Application	Composite
Total Potassium (mg/kg)	NA	NL	1/Application	Composite
Alkalinity as CaCO ₃ (%)	NL**	NA	1/Application	Composite
Arsenic (mg/kg)	41	75	1/Application	Composite
Cadmium (mg/kg)	39	85	1/Application	Composite
Copper (mg/kg)	1,500	4,300	1/Application	Composite
Lead (mg/kg)	300	840	1/Application	Composite
Mercury (mg/kg)	17	57	1/Application	Composite
Molybdenum (mg/kg)	NA	75	1/Application	Composite
Nickel (mg/kg)	420	420	1/Application	Composite
Selenium (mg/kg)	100	100	1/Application	Composite
Zinc (mg/kg)	2800	7,500	1/Application	Composite
pH (Std Units @ 25° C)	NA	NL	1/Application	Composite

PARAMETER & UNITS	MONITORING REQUIREMENTS			
	MONTHLY AVERAGE MG/KG*	CEILING CONCENTRATION MAXIMUM MG/KG*	FREQUENCY	SAMPLE TYPE
Plant Available Nitrogen (Lbs/DT)	NA	NL	1/Application	Composite

NL = No limitation, monitoring required

NA = Not Applicable

* = Dry weight basis, unless otherwise stated.

** = Lime treated sludge (10% or more CaCO₃ by dry weight) should be analyzed for percent Calcium Carbonate Equivalence (CCE).

- c. Pathogen Reduction Limitations (Identify the chosen class/alternative(s) in accordance with the approved SMP (may be more than one), specify the applicable monitoring/operation parameters.)

For example: Class B, Alternative 1, fecal coliform less than either 2,000,000 MPN/g or 2,000,000 CFU/g; or Class B, Alternative 2, anaerobic digestion - Sewage sludge shall be treated in the absence of air for a specific mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 15 days at 35 to 55 degrees Celsius and 60 days at 200 degrees Celsius.

- d. Vector Attraction Reduction Limitations: The permittee shall comply with one of the applicable vector attraction reduction alternatives specified in 9 VAC 25-31-720 B.
- e. All samples shall be collected and analyzed in accordance with the approved O & M Manual.

TABLE II - MUNICIPAL MINOR EFFLUENT LIMITATIONS

Attachment 5 continued

Final Chlorine Limitations Effective Dates - From: Permit Issuance To: Permit Expiration

TRC **	AFTER CL2 CONTACT TANK (Dechlor. Required)			AFTER DECHLORINATION		AFTER CL2 CONTACT TANK (Dechlor. Not Required)				
	MIN.	EXC.	INST. MIN.	WKLY AVG.	INST. MAX.	PERMIT RANGE	EXC.	REPORT- ING RANGE	EXC.	TECH. MAX.
a) Non-Detect. Dechlor. Required	---	---	---	---	---	NA	NA	NA	NA	NA
b) Detect. Dechlor. Required	1.5	36	0.6 mg/l*	2.4 mg/l	---	NA	NA	NA	NA	NA
c) No Dechlor.	NA	NA	NA	NA	NA	---	---	---	---	---

* Reporting is required when 3 or more consecutive readings are <0.6 mg/l or when the TRC is <0.1 mg/l.

** --Chlorine mass balance C_w (W for Tidal systems): check one

___ a) $C_w < 0.1$ mg/l [dechlor. required, non-detectable format]

X b) $0.1 \text{ mg/l} \leq C_w < 2.0 \text{ mg/l}$ (2.5 mg/l for PWS, Shellfish waters) [dechlor. required, detectable format]

___ c) $C_w > 2.0$ mg/l (2.5 mg/l for PWS, Shellfish waters) [dechlor. not required, include a restrictive technology max. value]

The design flow of this treatment facility is 30 MGD.

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

See Part I.B. for additional TRC limitations.

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING
RATIONALE/SUITABLE DATA/
ANTIDEGRADATION/ANTIBACKSLIDING

HRSD NANSEMOND STP
Rationale For Parameters, Limitations, And Sampling Requirements
Outfall 001

Flow: No limit, monitoring is required with continuous, totalizing, indicating or recording equipment. This based on the VPDES Permit Manual, and is standard for sanitary wastewater plants with discharges greater than 2 MGD. The design flow of 30 MGD is the baseline for the 95% design flow capacity notification.

pH: Minimum limit of 6.0 and maximum of 9.0 S.U. These limits are based on Federal Effluent Guidelines (40 CFR 133.102) and Water Quality Standards in 9 VAC 25-260-50, which limits pH to the range above for coastal waters of the State. Monitoring is a daily grab sample and is standard for sanitary WW plants with discharges greater than 2 MGD.

Biochemical Oxygen Demand: Monthly average of 30 mg/l and 3406 kg/day and a weekly average of 45 mg/l and 5110 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon the last permit reissuance where DEQ guidance document 98-2008 was used to decrease the monitoring frequency to 3days/week. This will be carried forward for this reissuance.

Total Suspended Solids: Monthly average of 30 mg/l and 3406 kg/day and a weekly average of 45 mg/l and 5110 kg/day. This is based on Federal Effluent Guidelines (40 CFR 133.102) which sets the limits for secondary WW plants. Loading limits are in whole numbers based upon the latest DEQ significant figures guidance (06-2016). Monitoring required is a 24 hour composite, 3 days a week. The frequency is based upon the last permit reissuance where DEQ guidance document 98-2008 was used to decrease the monitoring frequency to 3 days/week. This will be carried forward for this reissuance.

Total Residual Contact Chlorine: Minimum limit after contact time is 1.5 mg/l with 36 exceptions. The limit is standard for Shellfish Waters and follows guidance entitled "Chlorine Water Quality Standard" issued 10/21/98. In addition, it follows the requirements of the VPDES permit manual. These process monitoring limits are believed necessary to ensure proper disinfection. Monitoring required is a grab sample once every two hours. This is based on the VPDES Permit Manual and is standard for municipal discharges of > 2.0 MGD to nutrient enriched waters.

A special condition requires reporting if the chlorine concentration falls below 0.6 mg/l or chlorination is lost. In the current permit the special condition states that if Chlorine concentrations fall below 0.6 mg/l **or** the chlorine dosage is <1.0 mg/l then reporting is required. This requirement was changed from an "or" to an "and" during permit negotiations with Clyde Gantt (DEQ permits) during the first draft of this permit reissuance, the Chesapeake-Elizabeth STP permit reissuance, and the Atlantic STP permit reissuance. The change to an "and" was based upon CKG applying BPJ because of HRSD reporting. However, it was noticed that comments were received from VDH on the draft permit by CKG and the comments were not properly addressed. On 6/21/07 I emailed Dan Horne with VDH to find out if his original concerns still existed. He emailed back on 7/22/07 stating that he would suggest that the wording not be changed to "AND". He also wanted DSS notified. On 6/26/07 I emailed Keith Skiles with DSS who commented back on 6/29/07. (All emails are attached) On 6/29/07 I sent an email to both DSS, VDH, and DEQ-Wastewater Engineering with newly proposed language that would require reporting when 3 or more consecutive TRC readings were below 0.6 mg/l or the TRC is less than 0.1 mg/l. The consecutive concept was recommended by HRSD in a phone call with Sharon Nicklas on 6/25/07 and Kim Butler with DEQ Wastewater Engineering requested the reporting when <0.1 mg/l. I included a date to respond back by in the email to VDH of 7/2/07. On 7/23 and 7/24/07, DSS and VDH responded that they have no issue with the condition. On 8/10/07, I sent both VDH and DSS an email stating that the condition would be carried forward in all other reissued HRSD permits.

**Final Total
Residual Chlorine:**

A weekly average of 2.4 mg/l. A monthly average of 0.20 mg/l. This is a technology based limit following guidance document 00-2011 and is carried forward from the current permit. The monthly average limit has been changed from 0.2 to 0.20 mg/l to account for significant figures guidance (06-2016). Monitoring is required once/day by grab sample. The frequency is based on the VPDES permit manual and is standard for municipal discharges of >2.0 MGD.

Fecal Coliform:

Monthly average of 200 n/cml. This is based on Water Quality Standards (9 VAC 25-260-160) and is believed protective of instream standards. Monitoring required is a grab sample once a week. The VPDES Manual allows reduction to this frequency based on long term average discharge values in relation to the monthly average limit. The monitoring reduction calculations for fecal coliform are attached to this section. Current guidance requires fecal coliform monitoring in salt or transition waters if the

discharge is to shellfish waters. BPJ determines that this frequency is adequate to determine compliance with the standard.

Enterococcus monitoring was not required based on the disinfection study submitted by HRSD on July 1, 2004. The study documented that adequate disinfection for enterococcus was accomplished, and demonstrated that chlorine is adequate as a substitute monitoring parameter. Fecal coliform samples are to be taken during the 10AM to 4PM time frame. This is a new requirement for the facility and is standard for sewage treatment plants. HRSD had previously submitted a study to document the lack of statistical difference in sample times. DEQ Central Office has determined that the study is no longer valid and that the 10AM-4PM sampling timeframe must be met. HRSD has submitted a new sampling plan for a similar study as the one done before to DEQ CO and is waiting for a response from CO. Until a new statistical study is performed and approved by DEQ CO, the 10AM-4PM sampling timeframe will need to be met.

**Total
Phosphorus
Calendar Year**

An annual average concentration limit of 2.0 mg/l is placed in the permit with monitoring on an annual basis. Total Phosphorus is the only nutrient parameter left in the individual permit. All other nutrient monitoring and reporting is covered under the General VPDES Watershed Permit for Total Nitrogen and Total Phosphorus. The Nansemond River HRSD facility is covered under VAN040090. On 5/16/07 guidance document 07-2008 was released by DEQ Central Office for the implementation of the nutrient general permit in relation to the individual permit. The guidance states (pg 17) that the annual concentration limit be included at the next permit reissuance/modification after the effective dated of the Watershed general permit total phosphorus limit. HRSD chose to accept the Total Phosphorus limit for the James River bubble permit on January 1, 2007; therefore the concentration average limit can be changed from monthly to annual at this reissuance.

**Total
Phosphorus
Year-to-Date**

There is no limit for the monthly average TP Year-to-date parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M and is a calculation. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed held by HRSD.

**Total
Phosphorus**

There is no limit for the monthly average phosphorus parameter. This parameter was added to the permit in accordance with guidance document 07-2008. Reporting is 1/M. Data for this parameter is collected in accordance with the VPDES permit VAN040090 for the James River Watershed. Reporting for this

parameter is required in the individual permit (IP) because the annual concentration limits is contained in the IP. All data used to calculate and determine compliance with the limit in the IP needs to be in the same document and reported on the same form as the limit.

Water Quality Standards Reasonable Potential

Cyanide was reported on form 2A with a maximum concentration of 20 mg/L. The data was analyzed using the "STATS.exe". No limit for cyanide was needed. The stats output is attached.

Ammonia concentrations were also reported on Form 2A with a maximum of 24.3 mg/L. The data was analyzed using the "STATS.exe" program. Due to the large wasteload allocations due to the mixing zone analysis (WLAA 330, WLAC 400), no limit is needed for ammonia.

All other water quality parameters reported on Form 2A were below the quantification levels. No additional limits are needed at this time.

Mixing Zone Analysis

A dilution study was submitted for this facility in 7/98. The dilution study was approved by central office at the time of submittal. The acute dilution ratio is 73:1 and the chronic ratio is 600:1. Results of the study showing the ratios are attached.

Stormwater

Outfalls 002-006 are discharges of stormwater from the plant (industrial) area. HRSD submitted stormwater sample data from four outfalls located at different HRSD plants. HRSD believes the stormwater runoff from all of their plants to be substantially similar, and the data submitted to be representative of all of their plants.

HRSD has met the requirements for industrial "no exposure", thereby only discharging stormwater not associated with an industrial activity. The Stormwater Management Condition has been removed from the permit. The "no exposure" certification form is attached to the section.

Tributyltin

The previous permit included monitoring for Tributyltin (TBT). The results of all monitoring submitted by HRSD were below the 10 part per trillion level of analytical detection. HRSD's Industrial Waste Division regulations require all discharges into the HRSD to be below the analytical quantification level of 30 parts per trillion. Additionally, they have aggressively pursued potential sources of TBT and industrial user violations of their regulation. HRSD's actions have reduced the possibility of TBT being introduced into the sewerage

system. Additionally, dilution at the plant outfall minimizes the possibility of any TBT concentration in the discharge being near the instream standard. Based on the above circumstances BPJ determined that no further monitoring for TBT is required. Backsliding is not an issue since there were no TBT limits in the previous permit.

Permit No.	Monitoring Start Date	Monitoring End Date	Outfall No.	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-May-2000	31-May-2000	001	BOD5	506	540		7	8
VA0081299	01-Jun-2000	30-Jun-2000	001	BOD5	343	427		5	6
VA0081299	01-Jul-2000	31-Jul-2000	001	BOD5	222	262		3	4
VA0081299	01-Aug-2000	31-Aug-2000	001	BOD5	241	229		3	3
VA0081299	01-Sep-2000	30-Sep-2000	001	BOD5	431	540		5	7
VA0081299	01-Oct-2000	31-Oct-2000	001	BOD5	586	743		9	10
VA0081299	01-Nov-2000	30-Nov-2000	001	BOD5	287	298		4	5
VA0081299	01-Dec-2000	31-Dec-2000	001	BOD5	375	489		6	8
VA0081299	01-Jan-2001	31-Jan-2001	001	BOD5	353	405		6	6
VA0081299	01-Feb-2001	28-Feb-2001	001	BOD5	448	598		7	9
VA0081299	01-Mar-2001	31-Mar-2001	001	BOD5	492	545		7	9
VA0081299	01-Apr-2001	30-Apr-2001	001	BOD5	471	520		7	8
VA0081299	01-May-2001	31-May-2001	001	BOD5	399	459		6	7
VA0081299	01-Jun-2001	30-Jun-2001	001	BOD5	230	316		3	5
VA0081299	01-Jul-2001	31-Jul-2001	001	BOD5	282	398		5	6
VA0081299	01-Aug-2001	31-Aug-2001	001	BOD5	252	415		5	8
VA0081299	01-Sep-2001	30-Sep-2001	001	BOD5	497	730		8	11
VA0081299	01-Oct-2001	31-Oct-2001	001	BOD5	338	333		5	5
VA0081299	01-Nov-2001	30-Nov-2001	001	BOD5	393	448		6	7
VA0081299	01-Dec-2001	31-Dec-2001	001	BOD5	234	365		4	6
VA0081299	01-Jan-2002	31-Jan-2002	001	BOD5	377	451		6	7
VA0081299	01-Feb-2002	28-Feb-2002	001	BOD5	413	495		7	7
VA0081299	01-Mar-2002	31-Mar-2002	001	BOD5	419	542		6	8
VA0081299	01-Apr-2002	30-Apr-2002	001	BOD5	314	375		5	5
VA0081299	01-May-2002	31-May-2002	001	BOD5	406	603		6	9
VA0081299	01-Jun-2002	30-Jun-2002	001	BOD5	243	317		4	5
VA0081299	01-Jul-2002	31-Jul-2002	001	BOD5	239	242		4	4
VA0081299	01-Aug-2002	31-Aug-2002	001	BOD5	242	321		4	5
VA0081299	01-Sep-2002	30-Sep-2002	001	BOD5	297	396		4	5
VA0081299	01-Oct-2002	31-Oct-2002	001	BOD5	320	316		5	5
VA0081299	01-Nov-2002	30-Nov-2002	001	BOD5	493	760		6	9
VA0081299	01-Dec-2002	31-Dec-2002	001	BOD5	561	608		8	8
VA0081299	01-Jan-2003	31-Jan-2003	001	BOD5	525	647		8	9
VA0081299	01-Feb-2003	28-Feb-2003	001	BOD5	577	761		7	8
VA0081299	01-Mar-2003	31-Mar-2003	001	BOD5	566	659		7	9
VA0081299	01-Apr-2003	30-Apr-2003	001	BOD5	691	920		9	10
VA0081299	01-May-2003	31-May-2003	001	BOD5	488	572		7	8
VA0081299	01-Jun-2003	30-Jun-2003	001	BOD5	850	1305		11	17
VA0081299	01-Jul-2003	31-Jul-2003	001	BOD5	402	540		5	7

Data Pulled
from Discover
on 8/10/07.
Not all data for
the permit term
is accessible from
CEDs. This query
includes data from
May 00 - July 07
Dec 99 - April 00
Reviewed in CEDs.
DOA

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Aug-2003	31-Aug-2003	001	BOD5	348	391		5	5
VA0081299	01-Sep-2003	30-Sep-2003	001	BOD5	416	461		5	6
VA0081299	01-Oct-2003	31-Oct-2003	001	BOD5	225	305		3	4
VA0081299	01-Nov-2003	30-Nov-2003	001	BOD5	335	453		4	6
VA0081299	01-Dec-2003	31-Dec-2003	001	BOD5	504	559		6	7
VA0081299	01-Jan-2004	31-Jan-2004	001	BOD5	870	1022		11	13
VA0081299	01-Feb-2004	29-Feb-2004	001	BOD5	715	906		9	11
VA0081299	01-Mar-2004	31-Mar-2004	001	BOD5	385	413		5	5
VA0081299	01-Apr-2004	30-Apr-2004	001	BOD5	489	467		7	6
VA0081299	01-May-2004	31-May-2004	001	BOD5	486	573		7	8
VA0081299	01-Jun-2004	30-Jun-2004	001	BOD5	408	447		6	6
VA0081299	01-Jul-2004	31-Jul-2004	001	BOD5	437	486		6	6
VA0081299	01-Aug-2004	31-Aug-2004	001	BOD5	363	435		4	5
VA0081299	01-Sep-2004	30-Sep-2004	001	BOD5	365	369		5	5
VA0081299	01-Oct-2004	31-Oct-2004	001	BOD5	412	493		5	6
VA0081299	01-Nov-2004	30-Nov-2004	001	BOD5	422	520		6	7
VA0081299	01-Dec-2004	31-Dec-2004	001	BOD5	570	599		7	8
VA0081299	01-Jan-2005	31-Jan-2005	001	BOD5	883	929		11	12
VA0081299	01-Feb-2005	28-Feb-2005	001	BOD5	746	749		9	9
VA0081299	01-Mar-2005	31-Mar-2005	001	BOD5	908	1484		11	19
VA0081299	01-Apr-2005	30-Apr-2005	001	BOD5	616	960		8	13
VA0081299	01-May-2005	31-May-2005	001	BOD5	766	1063		10	14
VA0081299	01-Jun-2005	30-Jun-2005	001	BOD5	445	508		6	6
VA0081299	01-Jul-2005	31-Jul-2005	001	BOD5	234	345		4	5
VA0081299	01-Aug-2005	31-Aug-2005	001	BOD5	214	231		3	3
VA0081299	01-Sep-2005	30-Sep-2005	001	BOD5	186	188		3	3
VA0081299	01-Oct-2005	31-Oct-2005	001	BOD5	222	256		3	3
VA0081299	01-Nov-2005	30-Nov-2005	001	BOD5	335	544		5	7
VA0081299	01-Dec-2005	31-Dec-2005	001	BOD5	407	467		6	6
VA0081299	01-Jan-2006	31-Jan-2006	001	BOD5	317	335		5	5
VA0081299	01-Feb-2006	28-Feb-2006	001	BOD5	397	461		6	7
VA0081299	01-Mar-2006	31-Mar-2006	001	BOD5	264	311		4	5
VA0081299	01-Apr-2006	30-Apr-2006	001	BOD5	442	505		7	8
VA0081299	01-May-2006	31-May-2006	001	BOD5	296	363		5	5
VA0081299	01-Jun-2006	30-Jun-2006	001	BOD5	237	276		3	4
VA0081299	01-Jul-2006	31-Jul-2006	001	BOD5	213	272		3	4
VA0081299	01-Aug-2006	31-Aug-2006	001	BOD5	206	204		3	3
VA0081299	01-Sep-2006	30-Sep-2006	001	BOD5	179	248		2	3

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Oct-2006	31-Oct-2006	001	BOD5	293	464		4	7
VA0081299	01-Nov-2006	30-Nov-2006	001	BOD5	337	401		4	5
VA0081299	01-Dec-2006	31-Dec-2006	001	BOD5	638	999		9	14
VA0081299	01-Jan-2007	31-Jan-2007	001	BOD5	635	658		9	9
VA0081299	01-Feb-2007	28-Feb-2007	001	BOD5	788	970		11	14
VA0081299	01-Mar-2007	31-Mar-2007	001	BOD5	403	453		6	7
VA0081299	01-Apr-2007	30-Apr-2007	001	BOD5	323	428		5	6
VA0081299	01-May-2007	31-May-2007	001	BOD5	232	251		3	4
VA0081299	01-Jun-2007	30-Jun-2007	001	BOD5	273	299		4	4
VA0081299	01-May-2000	31-May-2000	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Jun-2000	30-Jun-2000	001	CL2, TOTAL CONTACT			0.6		
VA0081299	01-Jul-2000	31-Jul-2000	001	CL2, TOTAL CONTACT			0.5		
VA0081299	01-Aug-2000	31-Aug-2000	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Sep-2000	30-Sep-2000	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Oct-2000	31-Oct-2000	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-Nov-2000	30-Nov-2000	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Dec-2000	31-Dec-2000	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Jan-2001	31-Jan-2001	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Feb-2001	28-Feb-2001	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Mar-2001	31-Mar-2001	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Apr-2001	30-Apr-2001	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-May-2001	31-May-2001	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Jun-2001	30-Jun-2001	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Jul-2001	31-Jul-2001	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Aug-2001	31-Aug-2001	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Sep-2001	30-Sep-2001	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Oct-2001	31-Oct-2001	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Nov-2001	30-Nov-2001	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Dec-2001	31-Dec-2001	001	CL2, TOTAL CONTACT			0.2		
VA0081299	01-Jan-2002	31-Jan-2002	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Feb-2002	28-Feb-2002	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-Mar-2002	31-Mar-2002	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Apr-2002	30-Apr-2002	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-May-2002	31-May-2002	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Jun-2002	30-Jun-2002	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Jul-2002	31-Jul-2002	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Aug-2002	31-Aug-2002	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Sep-2002	30-Sep-2002	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Oct-2002	31-Oct-2002	001	CL2, TOTAL CONTACT			0.8		

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Nov-2002	30-Nov-2002	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Dec-2002	31-Dec-2002	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Jan-2003	31-Jan-2003	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Feb-2003	28-Feb-2003	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Mar-2003	31-Mar-2003	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Apr-2003	30-Apr-2003	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-May-2003	31-May-2003	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Jun-2003	30-Jun-2003	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Jul-2003	31-Jul-2003	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Aug-2003	31-Aug-2003	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Sep-2003	30-Sep-2003	001	CL2, TOTAL CONTACT			0.2		
VA0081299	01-Oct-2003	31-Oct-2003	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Nov-2003	30-Nov-2003	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Dec-2003	31-Dec-2003	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Jan-2004	31-Jan-2004	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Feb-2004	29-Feb-2004	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Mar-2004	31-Mar-2004	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Apr-2004	30-Apr-2004	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-May-2004	31-May-2004	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Jun-2004	30-Jun-2004	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Jul-2004	31-Jul-2004	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Aug-2004	31-Aug-2004	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Sep-2004	30-Sep-2004	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Oct-2004	31-Oct-2004	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Nov-2004	30-Nov-2004	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Dec-2004	31-Dec-2004	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Jan-2005	31-Jan-2005	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Feb-2005	28-Feb-2005	001	CL2, TOTAL CONTACT			1.5		
VA0081299	01-Mar-2005	31-Mar-2005	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-Apr-2005	30-Apr-2005	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-May-2005	31-May-2005	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Jun-2005	30-Jun-2005	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Jul-2005	31-Jul-2005	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Aug-2005	31-Aug-2005	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Sep-2005	30-Sep-2005	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-Oct-2005	31-Oct-2005	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Nov-2005	30-Nov-2005	001	CL2, TOTAL CONTACT			1.0		
VA0081299	01-Dec-2005	31-Dec-2005	001	CL2, TOTAL CONTACT			1.3		

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Jan-2006	31-Jan-2006	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Feb-2006	28-Feb-2006	001	CL2, TOTAL CONTACT			1.4		
VA0081299	01-Mar-2006	31-Mar-2006	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-Apr-2006	30-Apr-2006	001	CL2, TOTAL CONTACT			0.7		
VA0081299	01-May-2006	31-May-2006	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Jun-2006	30-Jun-2006	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Jul-2006	31-Jul-2006	001	CL2, TOTAL CONTACT			1.1		
VA0081299	01-Aug-2006	31-Aug-2006	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Sep-2006	30-Sep-2006	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Oct-2006	31-Oct-2006	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Nov-2006	30-Nov-2006	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-Dec-2006	31-Dec-2006	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-Jan-2007	31-Jan-2007	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Feb-2007	28-Feb-2007	001	CL2, TOTAL CONTACT			1.3		
VA0081299	01-Mar-2007	31-Mar-2007	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Apr-2007	30-Apr-2007	001	CL2, TOTAL CONTACT			0.9		
VA0081299	01-May-2007	31-May-2007	001	CL2, TOTAL CONTACT			1.2		
VA0081299	01-Jun-2007	30-Jun-2007	001	CL2, TOTAL CONTACT			0.8		
VA0081299	01-May-2000	31-May-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jun-2000	30-Jun-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jul-2000	31-Jul-2000	001	CL2, TOTAL FINAL				0.0	<0.1
VA0081299	01-Aug-2000	31-Aug-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Sep-2000	30-Sep-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Oct-2000	31-Oct-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Nov-2000	30-Nov-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Dec-2000	31-Dec-2000	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jan-2001	31-Jan-2001	001	CL2, TOTAL FINAL				0.0	0.1
VA0081299	01-Feb-2001	28-Feb-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2001	31-Mar-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Apr-2001	30-Apr-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-May-2001	31-May-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jun-2001	30-Jun-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jul-2001	31-Jul-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Aug-2001	31-Aug-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Sep-2001	30-Sep-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Oct-2001	31-Oct-2001	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Nov-2001	30-Nov-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Dec-2001	31-Dec-2001	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jan-2002	31-Jan-2002	001	CL2, TOTAL FINAL				<0.1	<0.1

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Feb-2002	28-Feb-2002	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2002	31-Mar-2002	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Apr-2002	30-Apr-2002	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-May-2002	31-May-2002	001	CL2, TOTAL FINAL				0	<0.1
VA0081299	01-Jun-2002	30-Jun-2002	001	CL2, TOTAL FINAL				0	0
VA0081299	01-Jul-2002	31-Jul-2002	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Aug-2002	31-Aug-2002	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Sep-2002	30-Sep-2002	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Oct-2002	31-Oct-2002	001	CL2, TOTAL FINAL				0.0	<0.1
VA0081299	01-Nov-2002	30-Nov-2002	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Dec-2002	31-Dec-2002	001	CL2, TOTAL FINAL				0.0	0.1
VA0081299	01-Jan-2003	31-Jan-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Feb-2003	28-Feb-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2003	31-Mar-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Apr-2003	30-Apr-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-May-2003	31-May-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jun-2003	30-Jun-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jul-2003	31-Jul-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Aug-2003	31-Aug-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Sep-2003	30-Sep-2003	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Oct-2003	31-Oct-2003	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Nov-2003	30-Nov-2003	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Dec-2003	31-Dec-2003	001	CL2, TOTAL FINAL				0.0	<0.1
VA0081299	01-Jan-2004	31-Jan-2004	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Feb-2004	29-Feb-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Mar-2004	31-Mar-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Apr-2004	30-Apr-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-May-2004	31-May-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Jun-2004	30-Jun-2004	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jul-2004	31-Jul-2004	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Aug-2004	31-Aug-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Sep-2004	30-Sep-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Oct-2004	31-Oct-2004	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Nov-2004	30-Nov-2004	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Dec-2004	31-Dec-2004	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jan-2005	31-Jan-2005	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Feb-2005	28-Feb-2005	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2005	31-Mar-2005	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Apr-2005	30-Apr-2005	001	CL2, TOTAL FINAL				0.0	0.0

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-May-2005	31-May-2005	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jun-2005	30-Jun-2005	001	CL2, TOTAL FINAL				<.1	<.1
VA0081299	01-Jul-2005	31-Jul-2005	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Aug-2005	31-Aug-2005	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Sep-2005	30-Sep-2005	001	CL2, TOTAL FINAL				0.0	0.1
VA0081299	01-Oct-2005	31-Oct-2005	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Nov-2005	30-Nov-2005	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Dec-2005	31-Dec-2005	001	CL2, TOTAL FINAL				0.0	<0.1
VA0081299	01-Jan-2006	31-Jan-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Feb-2006	28-Feb-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2006	31-Mar-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Apr-2006	30-Apr-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-May-2006	31-May-2006	001	CL2, TOTAL FINAL				0.0	<0.1
VA0081299	01-Jun-2006	30-Jun-2006	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Jul-2006	31-Jul-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Aug-2006	31-Aug-2006	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Sep-2006	30-Sep-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Oct-2006	31-Oct-2006	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-Nov-2006	30-Nov-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Dec-2006	31-Dec-2006	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jan-2007	31-Jan-2007	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Feb-2007	28-Feb-2007	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Mar-2007	31-Mar-2007	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Apr-2007	30-Apr-2007	001	CL2, TOTAL FINAL				<QL	<QL
VA0081299	01-May-2007	31-May-2007	001	CL2, TOTAL FINAL				<0.1	<0.1
VA0081299	01-Jun-2007	30-Jun-2007	001	CL2, TOTAL FINAL				0.0	0.0
VA0081299	01-May-2000	31-May-2000	001	COLIFORM, FECAL				2	
VA0081299	01-Jun-2000	30-Jun-2000	001	COLIFORM, FECAL				4	
VA0081299	01-Jul-2000	31-Jul-2000	001	COLIFORM, FECAL				11	
VA0081299	01-Aug-2000	31-Aug-2000	001	COLIFORM, FECAL				19	
VA0081299	01-Sep-2000	30-Sep-2000	001	COLIFORM, FECAL				24	
VA0081299	01-Oct-2000	31-Oct-2000	001	COLIFORM, FECAL				16	
VA0081299	01-Nov-2000	30-Nov-2000	001	COLIFORM, FECAL				4	
VA0081299	01-Dec-2000	31-Dec-2000	001	COLIFORM, FECAL				2	
VA0081299	01-Jan-2001	31-Jan-2001	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2001	28-Feb-2001	001	COLIFORM, FECAL				1	
VA0081299	01-Mar-2001	31-Mar-2001	001	COLIFORM, FECAL				1	
VA0081299	01-Apr-2001	30-Apr-2001	001	COLIFORM, FECAL				1	
VA0081299	01-May-2001	31-May-2001	001	COLIFORM, FECAL				14	

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Jun-2001	30-Jun-2001	001	COLIFORM, FECAL				15	
VA0081299	01-Jul-2001	31-Jul-2001	001	COLIFORM, FECAL				8	
VA0081299	01-Aug-2001	31-Aug-2001	001	COLIFORM, FECAL				4	
VA0081299	01-Sep-2001	30-Sep-2001	001	COLIFORM, FECAL				11	
VA0081299	01-Oct-2001	31-Oct-2001	001	COLIFORM, FECAL				9	
VA0081299	01-Nov-2001	30-Nov-2001	001	COLIFORM, FECAL				9	
VA0081299	01-Dec-2001	31-Dec-2001	001	COLIFORM, FECAL				6	
VA0081299	01-Jan-2002	31-Jan-2002	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2002	28-Feb-2002	001	COLIFORM, FECAL				3	
VA0081299	01-Mar-2002	31-Mar-2002	001	COLIFORM, FECAL				3	
VA0081299	01-Apr-2002	30-Apr-2002	001	COLIFORM, FECAL				2	
VA0081299	01-May-2002	31-May-2002	001	COLIFORM, FECAL				3	
VA0081299	01-Jun-2002	30-Jun-2002	001	COLIFORM, FECAL				11	
VA0081299	01-Jul-2002	31-Jul-2002	001	COLIFORM, FECAL				10	
VA0081299	01-Aug-2002	31-Aug-2002	001	COLIFORM, FECAL				8	
VA0081299	01-Sep-2002	30-Sep-2002	001	COLIFORM, FECAL				9	
VA0081299	01-Oct-2002	31-Oct-2002	001	COLIFORM, FECAL				4	
VA0081299	01-Nov-2002	30-Nov-2002	001	COLIFORM, FECAL				3	
VA0081299	01-Dec-2002	31-Dec-2002	001	COLIFORM, FECAL				3	
VA0081299	01-Jan-2003	31-Jan-2003	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2003	28-Feb-2003	001	COLIFORM, FECAL				2	
VA0081299	01-Mar-2003	31-Mar-2003	001	COLIFORM, FECAL				1	
VA0081299	01-Apr-2003	30-Apr-2003	001	COLIFORM, FECAL				1	
VA0081299	01-May-2003	31-May-2003	001	COLIFORM, FECAL				1	
VA0081299	01-Jun-2003	30-Jun-2003	001	COLIFORM, FECAL				4	
VA0081299	01-Jul-2003	31-Jul-2003	001	COLIFORM, FECAL				16	
VA0081299	01-Aug-2003	31-Aug-2003	001	COLIFORM, FECAL				13	
VA0081299	01-Sep-2003	30-Sep-2003	001	COLIFORM, FECAL				20	
VA0081299	01-Oct-2003	31-Oct-2003	001	COLIFORM, FECAL				7	
VA0081299	01-Nov-2003	30-Nov-2003	001	COLIFORM, FECAL				5	
VA0081299	01-Dec-2003	31-Dec-2003	001	COLIFORM, FECAL				3	
VA0081299	01-Jan-2004	31-Jan-2004	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2004	29-Feb-2004	001	COLIFORM, FECAL				2	
VA0081299	01-Mar-2004	31-Mar-2004	001	COLIFORM, FECAL				1	
VA0081299	01-Apr-2004	30-Apr-2004	001	COLIFORM, FECAL				2	
VA0081299	01-May-2004	31-May-2004	001	COLIFORM, FECAL				4	
VA0081299	01-Jun-2004	30-Jun-2004	001	COLIFORM, FECAL				6	
VA0081299	01-Jul-2004	31-Jul-2004	001	COLIFORM, FECAL				7	
VA0081299	01-Aug-2004	31-Aug-2004	001	COLIFORM, FECAL				33	

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Sep-2004	30-Sep-2004	001	COLIFORM, FECAL				13	
VA0081299	01-Oct-2004	31-Oct-2004	001	COLIFORM, FECAL				13	
VA0081299	01-Nov-2004	30-Nov-2004	001	COLIFORM, FECAL				7	
VA0081299	01-Dec-2004	31-Dec-2004	001	COLIFORM, FECAL				2	
VA0081299	01-Jan-2005	31-Jan-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Feb-2005	28-Feb-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Mar-2005	31-Mar-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Apr-2005	30-Apr-2005	001	COLIFORM, FECAL				3	
VA0081299	01-May-2005	31-May-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Jun-2005	30-Jun-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Jul-2005	31-Jul-2005	001	COLIFORM, FECAL				8	
VA0081299	01-Aug-2005	31-Aug-2005	001	COLIFORM, FECAL				6	
VA0081299	01-Sep-2005	30-Sep-2005	001	COLIFORM, FECAL				5	
VA0081299	01-Oct-2005	31-Oct-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Nov-2005	30-Nov-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Dec-2005	31-Dec-2005	001	COLIFORM, FECAL				2	
VA0081299	01-Jan-2006	31-Jan-2006	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2006	28-Feb-2006	001	COLIFORM, FECAL				2	
VA0081299	01-Mar-2006	31-Mar-2006	001	COLIFORM, FECAL				1	
VA0081299	01-Apr-2006	30-Apr-2006	001	COLIFORM, FECAL				1	
VA0081299	01-May-2006	31-May-2006	001	COLIFORM, FECAL				2	
VA0081299	01-Jun-2006	30-Jun-2006	001	COLIFORM, FECAL				6	
VA0081299	01-Jul-2006	31-Jul-2006	001	COLIFORM, FECAL				3	
VA0081299	01-Aug-2006	31-Aug-2006	001	COLIFORM, FECAL				3	
VA0081299	01-Sep-2006	30-Sep-2006	001	COLIFORM, FECAL				2	
VA0081299	01-Oct-2006	31-Oct-2006	001	COLIFORM, FECAL				3	
VA0081299	01-Nov-2006	30-Nov-2006	001	COLIFORM, FECAL				2	
VA0081299	01-Dec-2006	31-Dec-2006	001	COLIFORM, FECAL				2	
VA0081299	01-Jan-2007	31-Jan-2007	001	COLIFORM, FECAL				1	
VA0081299	01-Feb-2007	28-Feb-2007	001	COLIFORM, FECAL				1	
VA0081299	01-Mar-2007	31-Mar-2007	001	COLIFORM, FECAL				1	
VA0081299	01-Apr-2007	30-Apr-2007	001	COLIFORM, FECAL				1	
VA0081299	01-May-2007	31-May-2007	001	COLIFORM, FECAL				2	
VA0081299	01-Jun-2007	30-Jun-2007	001	COLIFORM, FECAL				2	
VA0081299	01-May-2000	31-May-2000	001	FLOW	18.15	24.67			
VA0081299	01-Jun-2000	30-Jun-2000	001	FLOW	19.22	26.82			
VA0081299	01-Jul-2000	31-Jul-2000	001	FLOW	19.48	23.41			
VA0081299	01-Aug-2000	31-Aug-2000	001	FLOW	20.39	24.24			
VA0081299	01-Sep-2000	30-Sep-2000	001	FLOW	21.00	29.21			

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Oct-2000	31-Oct-2000	001	FLOW	17.87	20.06			
VA0081299	01-Nov-2000	30-Nov-2000	001	FLOW	17.43	19.35			
VA0081299	01-Dec-2000	31-Dec-2000	001	FLOW	16.85	18.23			
VA0081299	01-Jan-2001	31-Jan-2001	001	FLOW	16.64	19.53			
VA0081299	01-Feb-2001	28-Feb-2001	001	FLOW	16.89	18.93			
VA0081299	01-Mar-2001	31-Mar-2001	001	FLOW	17.60	21.64			
VA0081299	01-Apr-2001	30-Apr-2001	001	FLOW	17.48	20.54			
VA0081299	01-May-2001	31-May-2001	001	FLOW	16.49	19.37			
VA0081299	01-Jun-2001	30-Jun-2001	001	FLOW	17.69	21.00			
VA0081299	01-Jul-2001	31-Jul-2001	001	FLOW	15.97	18.11			
VA0081299	01-Aug-2001	31-Aug-2001	001	FLOW	13.65	17.38			
VA0081299	01-Sep-2001	30-Sep-2001	001	FLOW	17.02	18.26			
VA0081299	01-Oct-2001	31-Oct-2001	001	FLOW	16.42	17.29			
VA0081299	01-Nov-2001	30-Nov-2001	001	FLOW	16.36	17.37			
VA0081299	01-Dec-2001	31-Dec-2001	001	FLOW	16.00	17.59			
VA0081299	01-Jan-2002	31-Jan-2002	001	FLOW	17.27	19.62			
VA0081299	01-Feb-2002	28-Feb-2002	001	FLOW	16.16	20.10			
VA0081299	01-Mar-2002	31-Mar-2002	001	FLOW	17.54	20.82			
VA0081299	01-Apr-2002	30-Apr-2002	001	FLOW	18.08	21.37			
VA0081299	01-May-2002	31-May-2002	001	FLOW	17.77	21.10			
VA0081299	01-Jun-2002	30-Jun-2002	001	FLOW	17.44	18.91			
VA0081299	01-Jul-2002	31-Jul-2002	001	FLOW	17.17	19.31			
VA0081299	01-Aug-2002	31-Aug-2002	001	FLOW	17.38	20.06			
VA0081299	01-Sep-2002	30-Sep-2002	001	FLOW	20.62	23.43			
VA0081299	01-Oct-2002	31-Oct-2002	001	FLOW	18.68	23.26			
VA0081299	01-Nov-2002	30-Nov-2002	001	FLOW	19.18	26.13			
VA0081299	01-Dec-2002	31-Dec-2002	001	FLOW	19.43	23.84			
VA0081299	01-Jan-2003	31-Jan-2003	001	FLOW	18.49	23.08			
VA0081299	01-Feb-2003	28-Feb-2003	001	FLOW	21.65	27.90			
VA0081299	01-Mar-2003	31-Mar-2003	001	FLOW	20.98	27.46			
VA0081299	01-Apr-2003	30-Apr-2003	001	FLOW	21.33	30.36			
VA0081299	01-May-2003	31-May-2003	001	FLOW	19.67	26.09			
VA0081299	01-Jun-2003	30-Jun-2003	001	FLOW	20.50	24.57			
VA0081299	01-Jul-2003	31-Jul-2003	001	FLOW	20.51	24.65			
VA0081299	01-Aug-2003	31-Aug-2003	001	FLOW	20.48	22.30			
VA0081299	01-Sep-2003	30-Sep-2003	001	FLOW	21.08	27.04			
VA0081299	01-Oct-2003	31-Oct-2003	001	FLOW	20.33	29.86			
VA0081299	01-Nov-2003	30-Nov-2003	001	FLOW	20.71	24.44			
VA0081299	01-Dec-2003	31-Dec-2003	001	FLOW	22.56	29.25			

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Jan-2004	31-Jan-2004	001	FLOW	20.61	21.99			
VA0081299	01-Feb-2004	29-Feb-2004	001	FLOW	21.31	24.98			
VA0081299	01-Mar-2004	31-Mar-2004	001	FLOW	19.62	22.36			
VA0081299	01-Apr-2004	30-Apr-2004	001	FLOW	19.45	20.80			
VA0081299	01-May-2004	31-May-2004	001	FLOW	19.45	22.43			
VA0081299	01-Jun-2004	30-Jun-2004	001	FLOW	19.94	23.02			
VA0081299	01-Jul-2004	31-Jul-2004	001	FLOW	20.87	24.21			
VA0081299	01-Aug-2004	31-Aug-2004	001	FLOW	23.81	34.53			
VA0081299	01-Sep-2004	30-Sep-2004	001	FLOW	21.25	25.51			
VA0081299	01-Oct-2004	31-Oct-2004	001	FLOW	20.49	22.53			
VA0081299	01-Nov-2004	30-Nov-2004	001	FLOW	19.80	24.95			
VA0081299	01-Dec-2004	31-Dec-2004	001	FLOW	20.32	23.90			
VA0081299	01-Jan-2005	31-Jan-2005	001	FLOW	20.93	24.37			
VA0081299	01-Feb-2005	28-Feb-2005	001	FLOW	21.15	24.30			
VA0081299	01-Mar-2005	31-Mar-2005	001	FLOW	20.96	23.56			
VA0081299	01-Apr-2005	30-Apr-2005	001	FLOW	20.12	23.37			
VA0081299	01-May-2005	31-May-2005	001	FLOW	19.58	24.19			
VA0081299	01-Jun-2005	30-Jun-2005	001	FLOW	19.57	23.0			
VA0081299	01-Jul-2005	31-Jul-2005	001	FLOW	17.70	19.35			
VA0081299	01-Aug-2005	31-Aug-2005	001	FLOW	17.96	19.43			
VA0081299	01-Sep-2005	30-Sep-2005	001	FLOW	17.45	18.97			
VA0081299	01-Oct-2005	31-Oct-2005	001	FLOW	18.79	24.49			
VA0081299	01-Nov-2005	30-Nov-2005	001	FLOW	17.90	22.40			
VA0081299	01-Dec-2005	31-Dec-2005	001	FLOW	19.41	22.00			
VA0081299	01-Jan-2006	31-Jan-2006	001	FLOW	18.56	20.72			
VA0081299	01-Feb-2006	28-Feb-2006	001	FLOW	17.54	18.75			
VA0081299	01-Mar-2006	31-Mar-2006	001	FLOW	17.07	17.51			
VA0081299	01-Apr-2006	30-Apr-2006	001	FLOW	17.06	18.64			
VA0081299	01-May-2006	31-May-2006	001	FLOW	17.08	19.77			
VA0081299	01-Jun-2006	30-Jun-2006	001	FLOW	18.83	24.22			
VA0081299	01-Jul-2006	31-Jul-2006	001	FLOW	18.56	20.68			
VA0081299	01-Aug-2006	31-Aug-2006	001	FLOW	17.83	19.35			
VA0081299	01-Sep-2006	30-Sep-2006	001	FLOW	19.48	27.12			
VA0081299	01-Oct-2006	31-Oct-2006	001	FLOW	19.11	25.85			
VA0081299	01-Nov-2006	30-Nov-2006	001	FLOW	20.78	25.82			
VA0081299	01-Dec-2006	31-Dec-2006	001	FLOW	18.90	20.72			
VA0081299	01-Jan-2007	31-Jan-2007	001	FLOW	18.69	19.95			
VA0081299	01-Feb-2007	28-Feb-2007	001	FLOW	18.23	18.76			
VA0081299	01-Mar-2007	31-Mar-2007	001	FLOW	18.26	20.73			

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Apr-2007	30-Apr-2007	001	FLOW	17.86	20.36			
VA0081299	01-May-2007	31-May-2007	001	FLOW	18.07	19.62			
VA0081299	01-Jun-2007	30-Jun-2007	001	FLOW	18.18	19.83			
VA0081299	01-May-2000	31-May-2000	001	NITROGEN, TOTAL (AS N)	1697	1772		24	26
VA0081299	01-Jun-2000	30-Jun-2000	001	NITROGEN, TOTAL (AS N)	1040	1306		15	18
VA0081299	01-Jul-2000	31-Jul-2000	001	NITROGEN, TOTAL (AS N)	808	837		11	11
VA0081299	01-Aug-2000	31-Aug-2000	001	NITROGEN, TOTAL (AS N)	743	754		10	10
VA0081299	01-Sep-2000	30-Sep-2000	001	NITROGEN, TOTAL (AS N)	731	993		9	10
VA0081299	01-Oct-2000	31-Oct-2000	001	NITROGEN, TOTAL (AS N)	780	832		11	13
VA0081299	01-Nov-2000	30-Nov-2000	001	NITROGEN, TOTAL (AS N)	645	661		10	11
VA0081299	01-Dec-2000	31-Dec-2000	001	NITROGEN, TOTAL (AS N)	1230	1863		20	30
VA0081299	01-Jan-2001	31-Jan-2001	001	NITROGEN, TOTAL (AS N)	2162	2366		34	38
VA0081299	01-Feb-2001	28-Feb-2001	001	NITROGEN, TOTAL (AS N)	1945	2172		31	34
VA0081299	01-Mar-2001	31-Mar-2001	001	NITROGEN, TOTAL (AS N)	1849	1904		29	29
VA0081299	01-Apr-2001	30-Apr-2001	001	NITROGEN, TOTAL (AS N)	1502	1897		23	29
VA0081299	01-May-2001	31-May-2001	001	NITROGEN, TOTAL (AS N)	765	784		12	13
VA0081299	01-Jun-2001	30-Jun-2001	001	NITROGEN, TOTAL (AS N)	692	792		11	13
VA0081299	01-Jul-2001	31-Jul-2001	001	NITROGEN, TOTAL (AS N)	623	715		10	11
VA0081299	01-Aug-2001	31-Aug-2001	001	NITROGEN, TOTAL (AS N)	961	1174		21	27
VA0081299	01-Sep-2001	30-Sep-2001	001	NITROGEN, TOTAL (AS N)	1779	2124		27	32
VA0081299	01-Oct-2001	31-Oct-2001	001	NITROGEN, TOTAL (AS N)	951	916		15	15
VA0081299	01-Nov-2001	30-Nov-2001	001	NITROGEN, TOTAL (AS N)	1021	1207		16	20
VA0081299	01-Dec-2001	31-Dec-2001	001	NITROGEN, TOTAL (AS N)	865	993		14	16
VA0081299	01-Jan-2002	31-Jan-2002	001	NITROGEN, TOTAL (AS N)	904	1008		14	16
VA0081299	01-Feb-2002	28-Feb-2002	001	NITROGEN, TOTAL (AS N)	793	867		13	14
VA0081299	01-Mar-2002	31-Mar-2002	001	NITROGEN, TOTAL (AS N)	779	884		12	13
VA0081299	01-Apr-2002	30-Apr-2002	001	NITROGEN, TOTAL (AS N)	719	693		10	10
VA0081299	01-May-2002	31-May-2002	001	NITROGEN, TOTAL (AS N)	966	960		15	14
VA0081299	01-Jun-2002	30-Jun-2002	001	NITROGEN, TOTAL (AS N)	931	1545		14	22
VA0081299	01-Jul-2002	31-Jul-2002	001	NITROGEN, TOTAL (AS N)	819	950		12	13
VA0081299	01-Aug-2002	31-Aug-2002	001	NITROGEN, TOTAL (AS N)	787	848		12	13
VA0081299	01-Sep-2002	30-Sep-2002	001	NITROGEN, TOTAL (AS N)	979	1045		12	13
VA0081299	01-Oct-2002	31-Oct-2002	001	NITROGEN, TOTAL (AS N)	984	1029		14	16
VA0081299	01-Nov-2002	30-Nov-2002	001	NITROGEN, TOTAL (AS N)	2370	2686		31	34
VA0081299	01-Dec-2002	31-Dec-2002	001	NITROGEN, TOTAL (AS N)	2137	2378		30	35
VA0081299	01-Jan-2003	31-Jan-2003	001	NITROGEN, TOTAL (AS N)	2304	2653		33	37
VA0081299	01-Feb-2003	28-Feb-2003	001	NITROGEN, TOTAL (AS N)	2562	3133		30	33
VA0081299	01-Mar-2003	31-Mar-2003	001	NITROGEN, TOTAL (AS N)	2491	2713		30	31
VA0081299	01-Apr-2003	30-Apr-2003	001	NITROGEN, TOTAL (AS N)	1951	2185		25	32

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-May-2003	31-May-2003	001	NITROGEN, TOTAL (AS N)	1869	2045		25	28
VA0081299	01-Jun-2003	30-Jun-2003	001	NITROGEN, TOTAL (AS N)	1870	2269		24	27
VA0081299	01-Jul-2003	31-Jul-2003	001	NITROGEN, TOTAL (AS N)	1157	1421		15	19
VA0081299	01-Aug-2003	31-Aug-2003	001	NITROGEN, TOTAL (AS N)	1305	1199		17	16
VA0081299	01-Sep-2003	30-Sep-2003	001	NITROGEN, TOTAL (AS N)	933	1229		12	17
VA0081299	01-Oct-2003	31-Oct-2003	001	NITROGEN, TOTAL (AS N)	1146	1134		15	15
VA0081299	01-Nov-2003	30-Nov-2003	001	NITROGEN, TOTAL (AS N)	1228	1267		16	17
VA0081299	01-Dec-2003	31-Dec-2003	001	NITROGEN, TOTAL (AS N)	1537	1803		17	16
VA0081299	01-Jan-2004	31-Jan-2004	001	NITROGEN, TOTAL (AS N)	1693	1903		22	24
VA0081299	01-Feb-2004	29-Feb-2004	001	NITROGEN, TOTAL (AS N)	1762	2057		22	25
VA0081299	01-Mar-2004	31-Mar-2004	001	NITROGEN, TOTAL (AS N)	1532	2107		21	28
VA0081299	01-Apr-2004	30-Apr-2004	001	NITROGEN, TOTAL (AS N)	1734	2150		24	30
VA0081299	01-May-2004	31-May-2004	001	NITROGEN, TOTAL (AS N)	1147	1065		16	14
VA0081299	01-Jun-2004	30-Jun-2004	001	NITROGEN, TOTAL (AS N)	1076	1176		14	16
VA0081299	01-Jul-2004	31-Jul-2004	001	NITROGEN, TOTAL (AS N)	1516	1876		19	20
VA0081299	01-Aug-2004	31-Aug-2004	001	NITROGEN, TOTAL (AS N)	1055	1251		12	12
VA0081299	01-Sep-2004	30-Sep-2004	001	NITROGEN, TOTAL (AS N)	1172	1451		14	15
VA0081299	01-Oct-2004	31-Oct-2004	001	NITROGEN, TOTAL (AS N)	1118	1283		14	15
VA0081299	01-Nov-2004	30-Nov-2004	001	NITROGEN, TOTAL (AS N)	1210	1171		15	16
VA0081299	01-Dec-2004	31-Dec-2004	001	NITROGEN, TOTAL (AS N)	1310	1431		17	18
VA0081299	01-Jan-2005	31-Jan-2005	001	NITROGEN, TOTAL (AS N)	1918	2047		23	24
VA0081299	01-Feb-2005	28-Feb-2005	001	NITROGEN, TOTAL (AS N)	2247	2405		29	31
VA0081299	01-Mar-2005	31-Mar-2005	001	NITROGEN, TOTAL (AS N)	2475	2626		32	33
VA0081299	01-Apr-2005	30-Apr-2005	001	NITROGEN, TOTAL (AS N)	2701	2935		35	40
VA0081299	01-May-2005	31-May-2005	001	NITROGEN, TOTAL (AS N)	2141	2431		30	34
VA0081299	01-Jun-2005	30-Jun-2005	001	NITROGEN, TOTAL (AS N)	1816	2033		25	27
VA0081299	01-Jul-2005	31-Jul-2005	001	NITROGEN, TOTAL (AS N)	862	1085		13	17
VA0081299	01-Aug-2005	31-Aug-2005	001	NITROGEN, TOTAL (AS N)	733	837		11	12
VA0081299	01-Sep-2005	30-Sep-2005	001	NITROGEN, TOTAL (AS N)	782	809		12	12
VA0081299	01-Oct-2005	31-Oct-2005	001	NITROGEN, TOTAL (AS N)	652	741		9	11
VA0081299	01-Nov-2005	30-Nov-2005	001	NITROGEN, TOTAL (AS N)	818	788		12	12
VA0081299	01-Dec-2005	31-Dec-2005	001	NITROGEN, TOTAL (AS N)	735	884		10	12
VA0081299	01-Jan-2006	31-Jan-2006	001	NITROGEN, TOTAL (AS N)	753	772		11	11
VA0081299	01-Feb-2006	28-Feb-2006	001	NITROGEN, TOTAL (AS N)	1028	1260		15	19
VA0081299	01-Mar-2006	31-Mar-2006	001	NITROGEN, TOTAL (AS N)	1008	1173		15	18
VA0081299	01-Apr-2006	30-Apr-2006	001	NITROGEN, TOTAL (AS N)	859	958		13	14
VA0081299	01-May-2006	31-May-2006	001	NITROGEN, TOTAL (AS N)	758	825		12	13
VA0081299	01-Jun-2006	30-Jun-2006	001	NITROGEN, TOTAL (AS N)	740	894		11	13
VA0081299	01-Jul-2006	31-Jul-2006	001	NITROGEN, TOTAL (AS N)	727	881		10	13

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Aug-2006	31-Aug-2006	001	NITROGEN, TOTAL (AS N)	690	780		10	12
VA0081299	01-Sep-2006	30-Sep-2006	001	NITROGEN, TOTAL (AS N)	755	797		10	12
VA0081299	01-Oct-2006	31-Oct-2006	001	NITROGEN, TOTAL (AS N)	700	796		10	11
VA0081299	01-Nov-2006	30-Nov-2006	001	NITROGEN, TOTAL (AS N)	1002	1279		13	15
VA0081299	01-Dec-2006	31-Dec-2006	001	NITROGEN, TOTAL (AS N)	697	883	10	10	13
VA0081299	01-Jan-2007	31-Jan-2007	001	NITROGEN, TOTAL (AS N)	906	1246		13	17
VA0081299	01-Feb-2007	28-Feb-2007	001	NITROGEN, TOTAL (AS N)	1218	1433		18	21
VA0081299	01-Mar-2007	31-Mar-2007	001	NITROGEN, TOTAL (AS N)	943	1163		14	17
VA0081299	01-Apr-2007	30-Apr-2007	001	NITROGEN, TOTAL (AS N)	998	1082		15	16
VA0081299	01-May-2007	31-May-2007	001	NITROGEN, TOTAL (AS N)	1003	1048		15	15
VA0081299	01-Jun-2007	30-Jun-2007	001	NITROGEN, TOTAL (AS N)	1009	1093		15	16
VA0081299	01-May-2000	31-May-2000	001	PH			6.7		7.2
VA0081299	01-Jun-2000	30-Jun-2000	001	PH			6.6		7.1
VA0081299	01-Jul-2000	31-Jul-2000	001	PH			6.6		7.2
VA0081299	01-Aug-2000	31-Aug-2000	001	PH			6.6		7.1
VA0081299	01-Sep-2000	30-Sep-2000	001	PH			6.6		7.3
VA0081299	01-Oct-2000	31-Oct-2000	001	PH			6.3		7.3
VA0081299	01-Nov-2000	30-Nov-2000	001	PH			6.7		7.2
VA0081299	01-Dec-2000	31-Dec-2000	001	PH			6.8		7.5
VA0081299	01-Jan-2001	31-Jan-2001	001	PH			7.2		7.4
VA0081299	01-Feb-2001	28-Feb-2001	001	PH			7.2		7.4
VA0081299	01-Mar-2001	31-Mar-2001	001	PH			6.7		7.4
VA0081299	01-Apr-2001	30-Apr-2001	001	PH			6.8		7.4
VA0081299	01-May-2001	31-May-2001	001	PH			6.7		7.4
VA0081299	01-Jun-2001	30-Jun-2001	001	PH			6.8		7.2
VA0081299	01-Jul-2001	31-Jul-2001	001	PH			6.8		7.3
VA0081299	01-Aug-2001	31-Aug-2001	001	PH			6.5		7.2
VA0081299	01-Sep-2001	30-Sep-2001	001	PH			6.5		7.4
VA0081299	01-Oct-2001	31-Oct-2001	001	PH			6.8		7.3
VA0081299	01-Nov-2001	30-Nov-2001	001	PH			6.7		7.2
VA0081299	01-Dec-2001	31-Dec-2001	001	PH			6.7		7.2
VA0081299	01-Jan-2002	31-Jan-2002	001	PH			6.6		7.2
VA0081299	01-Feb-2002	28-Feb-2002	001	PH			6.6		7.2
VA0081299	01-Mar-2002	31-Mar-2002	001	PH			6.5		7.0
VA0081299	01-Apr-2002	30-Apr-2002	001	PH			6.5		7.0
VA0081299	01-May-2002	31-May-2002	001	PH			6.5		7.3
VA0081299	01-Jun-2002	30-Jun-2002	001	PH			6.8		7.2
VA0081299	01-Jul-2002	31-Jul-2002	001	PH			6.7		7.2
VA0081299	01-Aug-2002	31-Aug-2002	001	PH			6.8		7.4

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Sep-2002	30-Sep-2002	001	PH			6.4		7.1
VA0081299	01-Oct-2002	31-Oct-2002	001	PH			6.9		7.3
VA0081299	01-Nov-2002	30-Nov-2002	001	PH			7.1		7.6
VA0081299	01-Dec-2002	31-Dec-2002	001	PH			7.0		7.4
VA0081299	01-Jan-2003	31-Jan-2003	001	PH			7.1		7.5
VA0081299	01-Feb-2003	28-Feb-2003	001	PH			7.1		7.4
VA0081299	01-Mar-2003	31-Mar-2003	001	PH			7.1		7.4
VA0081299	01-Apr-2003	30-Apr-2003	001	PH			7.0		7.3
VA0081299	01-May-2003	31-May-2003	001	PH			6.6		7.3
VA0081299	01-Jun-2003	30-Jun-2003	001	PH			7.0		7.3
VA0081299	01-Jul-2003	31-Jul-2003	001	PH			6.9		7.3
VA0081299	01-Aug-2003	31-Aug-2003	001	PH			6.3		7.2
VA0081299	01-Sep-2003	30-Sep-2003	001	PH			6.7		7.2
VA0081299	01-Oct-2003	31-Oct-2003	001	PH			6.7		7.3
VA0081299	01-Nov-2003	30-Nov-2003	001	PH			6.6		7.2
VA0081299	01-Dec-2003	31-Dec-2003	001	PH			6.7		7.1
VA0081299	01-Jan-2004	31-Jan-2004	001	PH			6.9		7.3
VA0081299	01-Feb-2004	29-Feb-2004	001	PH			7.0		7.4
VA0081299	01-Mar-2004	31-Mar-2004	001	PH			6.8		7.2
VA0081299	01-Apr-2004	30-Apr-2004	001	PH			7.1		7.4
VA0081299	01-May-2004	31-May-2004	001	PH			6.5		7.3
VA0081299	01-Jun-2004	30-Jun-2004	001	PH			6.8		7.4
VA0081299	01-Jul-2004	31-Jul-2004	001	PH			7.0		7.4
VA0081299	01-Aug-2004	31-Aug-2004	001	PH			6.9		7.3
VA0081299	01-Sep-2004	30-Sep-2004	001	PH			6.6		7.4
VA0081299	01-Oct-2004	31-Oct-2004	001	PH			7.1		7.4
VA0081299	01-Nov-2004	30-Nov-2004	001	PH			7.0		7.3
VA0081299	01-Dec-2004	31-Dec-2004	001	PH			6.4		7.3
VA0081299	01-Jan-2005	31-Jan-2005	001	PH			6.9		7.3
VA0081299	01-Feb-2005	28-Feb-2005	001	PH			7.1		7.5
VA0081299	01-Mar-2005	31-Mar-2005	001	PH			6.7		7.4
VA0081299	01-Apr-2005	30-Apr-2005	001	PH			6.9		7.6
VA0081299	01-May-2005	31-May-2005	001	PH			7.0		7.6
VA0081299	01-Jun-2005	30-Jun-2005	001	PH			7.0		7.3
VA0081299	01-Jul-2005	31-Jul-2005	001	PH			7.0		7.5
VA0081299	01-Aug-2005	31-Aug-2005	001	PH			7.1		7.5
VA0081299	01-Sep-2005	30-Sep-2005	001	PH			6.6		7.4
VA0081299	01-Oct-2005	31-Oct-2005	001	PH			6.5		7.4
VA0081299	01-Nov-2005	30-Nov-2005	001	PH			6.8		7.3

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Dec-2005	31-Dec-2005	001	PH			6.9		7.3
VA0081299	01-Jan-2006	31-Jan-2006	001	PH			6.8		7.1
VA0081299	01-Feb-2006	28-Feb-2006	001	PH			6.9		7.3
VA0081299	01-Mar-2006	31-Mar-2006	001	PH			7.0		7.3
VA0081299	01-Apr-2006	30-Apr-2006	001	PH			7.0		7.2
VA0081299	01-May-2006	31-May-2006	001	PH			6.9		7.2
VA0081299	01-Jun-2006	30-Jun-2006	001	PH			6.4		7.2
VA0081299	01-Jul-2006	31-Jul-2006	001	PH			6.6		7.2
VA0081299	01-Aug-2006	31-Aug-2006	001	PH			6.3		7.5
VA0081299	01-Sep-2006	30-Sep-2006	001	PH			6.6		8.3
VA0081299	01-Oct-2006	31-Oct-2006	001	PH			6.8		7.3
VA0081299	01-Nov-2006	30-Nov-2006	001	PH			6.7		7.2
VA0081299	01-Dec-2006	31-Dec-2006	001	PH			6.9		7.1
VA0081299	01-Jan-2007	31-Jan-2007	001	PH			7.0		7.3
VA0081299	01-Feb-2007	28-Feb-2007	001	PH			6.9		7.3
VA0081299	01-Mar-2007	31-Mar-2007	001	PH			6.6		7.2
VA0081299	01-Apr-2007	30-Apr-2007	001	PH			6.5		7.3
VA0081299	01-May-2007	31-May-2007	001	PH			7.1		7.3
VA0081299	01-Jun-2007	30-Jun-2007	001	PH			6.5		7.3
VA0081299	01-May-2000	31-May-2000	001	PHOSPHORUS, TOTAL (AS P)	48	55		1	1
VA0081299	01-Jun-2000	30-Jun-2000	001	PHOSPHORUS, TOTAL (AS P)	56	107		1	1
VA0081299	01-Jul-2000	31-Jul-2000	001	PHOSPHORUS, TOTAL (AS P)	65	198		1	2
VA0081299	01-Aug-2000	31-Aug-2000	001	PHOSPHORUS, TOTAL (AS P)	49	58		1	1
VA0081299	01-Sep-2000	30-Sep-2000	001	PHOSPHORUS, TOTAL (AS P)	141	265		2	3
VA0081299	01-Oct-2000	31-Oct-2000	001	PHOSPHORUS, TOTAL (AS P)	43	79		1	1
VA0081299	01-Nov-2000	30-Nov-2000	001	PHOSPHORUS, TOTAL (AS P)	36	39		1	1
VA0081299	01-Dec-2000	31-Dec-2000	001	PHOSPHORUS, TOTAL (AS P)	103	281		2	4
VA0081299	01-Jan-2001	31-Jan-2001	001	PHOSPHORUS, TOTAL (AS P)	78	125		1	2
VA0081299	01-Feb-2001	28-Feb-2001	001	PHOSPHORUS, TOTAL (AS P)	50	78		1	1
VA0081299	01-Mar-2001	31-Mar-2001	001	PHOSPHORUS, TOTAL (AS P)	32	35		<1	1
VA0081299	01-Apr-2001	30-Apr-2001	001	PHOSPHORUS, TOTAL (AS P)	40	43		1	1
VA0081299	01-May-2001	31-May-2001	001	PHOSPHORUS, TOTAL (AS P)	80	178		1	3
VA0081299	01-Jun-2001	30-Jun-2001	001	PHOSPHORUS, TOTAL (AS P)	86	161		1	2
VA0081299	01-Jul-2001	31-Jul-2001	001	PHOSPHORUS, TOTAL (AS P)	208	267		4	5
VA0081299	01-Aug-2001	31-Aug-2001	001	PHOSPHORUS, TOTAL (AS P)	94	146		2	3
VA0081299	01-Sep-2001	30-Sep-2001	001	PHOSPHORUS, TOTAL (AS P)	38	50		1	1
VA0081299	01-Oct-2001	31-Oct-2001	001	PHOSPHORUS, TOTAL (AS P)	100	143		2	2
VA0081299	01-Nov-2001	30-Nov-2001	001	PHOSPHORUS, TOTAL (AS P)	41	76		1	1
VA0081299	01-Dec-2001	31-Dec-2001	001	PHOSPHORUS, TOTAL (AS P)	82	154		1	2

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Jan-2002	31-Jan-2002	001	PHOSPHORUS, TOTAL (AS P)	61	64		1	1
VA0081299	01-Feb-2002	28-Feb-2002	001	PHOSPHORUS, TOTAL (AS P)	127	100		2	1
VA0081299	01-Mar-2002	31-Mar-2002	001	PHOSPHORUS, TOTAL (AS P)	85	146		1	2
VA0081299	01-Apr-2002	30-Apr-2002	001	PHOSPHORUS, TOTAL (AS P)	88	132		1	2
VA0081299	01-May-2002	31-May-2002	001	PHOSPHORUS, TOTAL (AS P)	96	231		1	3
VA0081299	01-Jun-2002	30-Jun-2002	001	PHOSPHORUS, TOTAL (AS P)	44	64		1	1
VA0081299	01-Jul-2002	31-Jul-2002	001	PHOSPHORUS, TOTAL (AS P)	113	160		2	3
VA0081299	01-Aug-2002	31-Aug-2002	001	PHOSPHORUS, TOTAL (AS P)	52	80		1	1
VA0081299	01-Sep-2002	30-Sep-2002	001	PHOSPHORUS, TOTAL (AS P)	84	142		1	2
VA0081299	01-Oct-2002	31-Oct-2002	001	PHOSPHORUS, TOTAL (AS P)	103	206		2	3
VA0081299	01-Nov-2002	30-Nov-2002	001	PHOSPHORUS, TOTAL (AS P)	76	182		1	2
VA0081299	01-Dec-2002	31-Dec-2002	001	PHOSPHORUS, TOTAL (AS P)	94	117		1	2
VA0081299	01-Jan-2003	31-Jan-2003	001	PHOSPHORUS, TOTAL (AS P)	63	98		1	1
VA0081299	01-Feb-2003	28-Feb-2003	001	PHOSPHORUS, TOTAL (AS P)	81	104		1	1
VA0081299	01-Mar-2003	31-Mar-2003	001	PHOSPHORUS, TOTAL (AS P)	86	92		1	1
VA0081299	01-Apr-2003	30-Apr-2003	001	PHOSPHORUS, TOTAL (AS P)	123	115		2	1
VA0081299	01-May-2003	31-May-2003	001	PHOSPHORUS, TOTAL (AS P)	154	448		2	6
VA0081299	01-Jun-2003	30-Jun-2003	001	PHOSPHORUS, TOTAL (AS P)	42	54		1	1
VA0081299	01-Jul-2003	31-Jul-2003	001	PHOSPHORUS, TOTAL (AS P)	34	46		<1	1
VA0081299	01-Aug-2003	31-Aug-2003	001	PHOSPHORUS, TOTAL (AS P)	167	294		2	4
VA0081299	01-Sep-2003	30-Sep-2003	001	PHOSPHORUS, TOTAL (AS P)	81	121		1	2
VA0081299	01-Oct-2003	31-Oct-2003	001	PHOSPHORUS, TOTAL (AS P)	96	188		1	3
VA0081299	01-Nov-2003	30-Nov-2003	001	PHOSPHORUS, TOTAL (AS P)	87	189		1	2
VA0081299	01-Dec-2003	31-Dec-2003	001	PHOSPHORUS, TOTAL (AS P)	87	135		1	2
VA0081299	01-Jan-2004	31-Jan-2004	001	PHOSPHORUS, TOTAL (AS P)	93	128		1	2
VA0081299	01-Feb-2004	29-Feb-2004	001	PHOSPHORUS, TOTAL (AS P)	92	132		1	2
VA0081299	01-Mar-2004	31-Mar-2004	001	PHOSPHORUS, TOTAL (AS P)	144	275		2	4
VA0081299	01-Apr-2004	30-Apr-2004	001	PHOSPHORUS, TOTAL (AS P)	83	67		1	1
VA0081299	01-May-2004	31-May-2004	001	PHOSPHORUS, TOTAL (AS P)	116	322		2	4
VA0081299	01-Jun-2004	30-Jun-2004	001	PHOSPHORUS, TOTAL (AS P)	52	96		1	1
VA0081299	01-Jul-2004	31-Jul-2004	001	PHOSPHORUS, TOTAL (AS P)	38	44		<1	1
VA0081299	01-Aug-2004	31-Aug-2004	001	PHOSPHORUS, TOTAL (AS P)	28	33		<1	<1
VA0081299	01-Sep-2004	30-Sep-2004	001	PHOSPHORUS, TOTAL (AS P)	93	238		1	3
VA0081299	01-Oct-2004	31-Oct-2004	001	PHOSPHORUS, TOTAL (AS P)	47	70		1	1
VA0081299	01-Nov-2004	30-Nov-2004	001	PHOSPHORUS, TOTAL (AS P)	37	47		<1	1
VA0081299	01-Dec-2004	31-Dec-2004	001	PHOSPHORUS, TOTAL (AS P)	47	54		1	1
VA0081299	01-Jan-2005	31-Jan-2005	001	PHOSPHORUS, TOTAL (AS P)	49	56		1	1
VA0081299	01-Feb-2005	28-Feb-2005	001	PHOSPHORUS, TOTAL (AS P)	53	57		1	1
VA0081299	01-Mar-2005	31-Mar-2005	001	PHOSPHORUS, TOTAL (AS P)	152	254		2	3

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-Apr-2005	30-Apr-2005	001	PHOSPHORUS, TOTAL (AS P)	67	83		1	1
VA0081299	01-May-2005	31-May-2005	001	PHOSPHORUS, TOTAL (AS P)	43	69		1	1
VA0081299	01-Jun-2005	30-Jun-2005	001	PHOSPHORUS, TOTAL (AS P)	26	30		<1	<1
VA0081299	01-Jul-2005	31-Jul-2005	001	PHOSPHORUS, TOTAL (AS P)	23	31		<1	<1
VA0081299	01-Aug-2005	31-Aug-2005	001	PHOSPHORUS, TOTAL (AS P)	52	53		1	1
VA0081299	01-Sep-2005	30-Sep-2005	001	PHOSPHORUS, TOTAL (AS P)	35	40		1	1
VA0081299	01-Oct-2005	31-Oct-2005	001	PHOSPHORUS, TOTAL (AS P)	88	245		1	3
VA0081299	01-Nov-2005	30-Nov-2005	001	PHOSPHORUS, TOTAL (AS P)	78	94		1	1
VA0081299	01-Dec-2005	31-Dec-2005	001	PHOSPHORUS, TOTAL (AS P)	50	63		1	1
VA0081299	01-Jan-2006	31-Jan-2006	001	PHOSPHORUS, TOTAL (AS P)	30	32		<1	<1
VA0081299	01-Feb-2006	28-Feb-2006	001	PHOSPHORUS, TOTAL (AS P)	60	70		1	1
VA0081299	01-Mar-2006	31-Mar-2006	001	PHOSPHORUS, TOTAL (AS P)	31	30		<1	<1
VA0081299	01-Apr-2006	30-Apr-2006	001	PHOSPHORUS, TOTAL (AS P)	105	164		2	3
VA0081299	01-May-2006	31-May-2006	001	PHOSPHORUS, TOTAL (AS P)	54	47		1	1
VA0081299	01-Jun-2006	30-Jun-2006	001	PHOSPHORUS, TOTAL (AS P)	160	446		2	6
VA0081299	01-Jul-2006	31-Jul-2006	001	PHOSPHORUS, TOTAL (AS P)	44	78		1	1
VA0081299	01-Aug-2006	31-Aug-2006	001	PHOSPHORUS, TOTAL (AS P)	87	205		1	3
VA0081299	01-Sep-2006	30-Sep-2006	001	PHOSPHORUS, TOTAL (AS P)	74	136		1	2
VA0081299	01-Oct-2006	31-Oct-2006	001	PHOSPHORUS, TOTAL (AS P)	77	127		1	2
VA0081299	01-Nov-2006	30-Nov-2006	001	PHOSPHORUS, TOTAL (AS P)	80	81		1	1
VA0081299	01-Dec-2006	31-Dec-2006	001	PHOSPHORUS, TOTAL (AS P)	51	56		1	1
VA0081299	01-Jan-2007	31-Jan-2007	001	PHOSPHORUS, TOTAL (AS P)	61	105		1	1
VA0081299	01-Feb-2007	28-Feb-2007	001	PHOSPHORUS, TOTAL (AS P)	69	118		1	2
VA0081299	01-Mar-2007	31-Mar-2007	001	PHOSPHORUS, TOTAL (AS P)	82	179		1	3
VA0081299	01-Apr-2007	30-Apr-2007	001	PHOSPHORUS, TOTAL (AS P)	83	151		1	2
VA0081299	01-May-2007	31-May-2007	001	PHOSPHORUS, TOTAL (AS P)	89	70		1	1
VA0081299	01-Jun-2007	30-Jun-2007	001	PHOSPHORUS, TOTAL (AS P)	73	171		1	3
VA0081299	01-May-2000	31-May-2000	001	TSS	698	904		10	13
VA0081299	01-Jun-2000	30-Jun-2000	001	TSS	394	464		5	6
VA0081299	01-Jul-2000	31-Jul-2000	001	TSS	301	364		4	5
VA0081299	01-Aug-2000	31-Aug-2000	001	TSS	279	336		4	4
VA0081299	01-Sep-2000	30-Sep-2000	001	TSS	422	504		5	6
VA0081299	01-Oct-2000	31-Oct-2000	001	TSS	419	558		6	8
VA0081299	01-Nov-2000	30-Nov-2000	001	TSS	396	498		6	7
VA0081299	01-Dec-2000	31-Dec-2000	001	TSS	542	605		9	10
VA0081299	01-Jan-2001	31-Jan-2001	001	TSS	526	751		8	11
VA0081299	01-Feb-2001	28-Feb-2001	001	TSS	502	723		8	11
VA0081299	01-Mar-2001	31-Mar-2001	001	TSS	339	357		5	5
VA0081299	01-Apr-2001	30-Apr-2001	001	TSS	400	468		6	7

Permit No	Monitoring Start Date	Monitoring End Date	Outfall No	Parameter Description	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0081299	01-May-2001	31-May-2001	001	TSS	406	496		6	7
VA0081299	01-Jun-2001	30-Jun-2001	001	TSS	230	290		3	4
VA0081299	01-Jul-2001	31-Jul-2001	001	TSS	286	419		5	7
VA0081299	01-Aug-2001	31-Aug-2001	001	TSS	435	569		9	12
VA0081299	01-Sep-2001	30-Sep-2001	001	TSS	525	755		8	11
VA0081299	01-Oct-2001	31-Oct-2001	001	TSS	687	751		11	12
VA0081299	01-Nov-2001	30-Nov-2001	001	TSS	629	929		10	15
VA0081299	01-Dec-2001	31-Dec-2001	001	TSS	442	605		7	10
VA0081299	01-Jan-2002	31-Jan-2002	001	TSS	566	636		9	9
VA0081299	01-Feb-2002	28-Feb-2002	001	TSS	727	823		12	13
VA0081299	01-Mar-2002	31-Mar-2002	001	TSS	736	858		11	14
VA0081299	01-Apr-2002	30-Apr-2002	001	TSS	429	471		6	7
VA0081299	01-May-2002	31-May-2002	001	TSS	869	1751		13	26
VA0081299	01-Jun-2002	30-Jun-2002	001	TSS	437	557		7	9
VA0081299	01-Jul-2002	31-Jul-2002	001	TSS	416	462		6	7
VA0081299	01-Aug-2002	31-Aug-2002	001	TSS	326	425		5	7
VA0081299	01-Sep-2002	30-Sep-2002	001	TSS	426	525		5	7
VA0081299	01-Oct-2002	31-Oct-2002	001	TSS	539	560		8	9
VA0081299	01-Nov-2002	30-Nov-2002	001	TSS	503	584		7	8
VA0081299	01-Dec-2002	31-Dec-2002	001	TSS	563	673		8	9
VA0081299	01-Jan-2003	31-Jan-2003	001	TSS	694	892		10	13
VA0081299	01-Feb-2003	28-Feb-2003	001	TSS	765	1137		9	12
VA0081299	01-Mar-2003	31-Mar-2003	001	TSS	709	768		9	11
VA0081299	01-Apr-2003	30-Apr-2003	001	TSS	662	1199		8	13
VA0081299	01-May-2003	31-May-2003	001	TSS	602	824		8	12
VA0081299	01-Jun-2003	30-Jun-2003	001	TSS	1020	1934		13	25
VA0081299	01-Jul-2003	31-Jul-2003	001	TSS	442	542		6	7
VA0081299	01-Aug-2003	31-Aug-2003	001	TSS	718	952		9	12
VA0081299	01-Sep-2003	30-Sep-2003	001	TSS	629	662		8	10
VA0081299	01-Oct-2003	31-Oct-2003	001	TSS	518	637		7	8
VA0081299	01-Nov-2003	30-Nov-2003	001	TSS	690	861		9	11
VA0081299	01-Dec-2003	31-Dec-2003	001	TSS	802	980		9	11
VA0081299	01-Jan-2004	31-Jan-2004	001	TSS	1329	1686		17	22
VA0081299	01-Feb-2004	29-Feb-2004	001	TSS	1075	1777		13	22
VA0081299	01-Mar-2004	31-Mar-2004	001	TSS	783	1083		10	14
VA0081299	01-Apr-2004	30-Apr-2004	001	TSS	1115	934		15	12
VA0081299	01-May-2004	31-May-2004	001	TSS	810	1043		11	14
VA0081299	01-Jun-2004	30-Jun-2004	001	TSS	554	585		8	8
VA0081299	01-Jul-2004	31-Jul-2004	001	TSS	450	500		6	6

[illegible]

HRSD Nansemond STP
FC Monitoring Reduction Calculations

DATE	PARAMETER	AVG (COL/100ML)
July-04	Fecal Coliform	7
August-04	Fecal Coliform	33
September-04	Fecal Coliform	13
October-04	Fecal Coliform	13
November-04	Fecal Coliform	7
December-04	Fecal Coliform	2
January-05	Fecal Coliform	2
February-05	Fecal Coliform	2
March-05	Fecal Coliform	2
April-05	Fecal Coliform	3
May-05	Fecal Coliform	2
June-05	Fecal Coliform	2
July-05	Fecal Coliform	8
August-05	Fecal Coliform	6
September-05	Fecal Coliform	5
October-05	Fecal Coliform	2
November-05	Fecal Coliform	2
December-05	Fecal Coliform	2
January-06	Fecal Coliform	1
February-06	Fecal Coliform	2
March-06	Fecal Coliform	1
April-06	Fecal Coliform	1
May-06	Fecal Coliform	2
June-06	Fecal Coliform	6
July-06	Fecal Coliform	3
August-06	Fecal Coliform	3
September-06	Fecal Coliform	2
October-06	Fecal Coliform	3
November-06	Fecal Coliform	2
December-06	Fecal Coliform	2
January-07	Fecal Coliform	1
February-07	Fecal Coliform	1
March-07	Fecal Coliform	1
April-07	Fecal Coliform	1
May-07	Fecal Coliform	2
June-07	Fecal Coliform	2

4.138888889

Limit 200

$$4.14/200 \times 100 = 2.07$$

2.07% between limit & long term average

Can allow for a decrease to 1/M.

Calculated 8/10/07
Using Data pulled
from discoverer.

DX

Facility = HRSD Nansemond STP

Chemical = Cyanide

Chronic averaging period = 4

WLAa = 73

WLAc = 600

Q.L. = 5

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 3

Expected Value = 4.63874

Variance = 7.74646

C.V. = 0.6

97th percentile daily values = 11.2880

97th percentile 4 day average = 7.71789

97th percentile 30 day average = 5.59457

< Q.L. = 2

Model used = BPJ Assumptions, Type 1 data

No Limit is required for this material

The data are:

20

0

0

Facility = HRSD Nansemond STP

Chemical = Ammonia

Chronic averaging period = 30

WLAa = 330

WLAc = 400

Q.L. = 0.2

samples/mo. = 1

samples/wk. = 1

Summary of Statistics:

observations = 2

Expected Value = 18.82

Variance = 127.509

C.V. = 0.6

97th percentile daily values = 45.7969

97th percentile 4 day average = 31.3125

97th percentile 30 day average = 22.6979

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

24.3

13.34 — Avg of 3 samples.
DDA

Initial Dilution Analysis for the HRSD Nansemond Treatment Plant



Prepared by:

Hampton Roads Sanitation District
Water Quality Department
Post Office Box 5911
Virginia Beach, VA 23471-0911
757-460-2261
757-460-2372 (Fax)

July 17, 1998





HRSD

P. O. BOX 5911, VIRGINIA BEACH, VIRGINIA 23471-0911 • (757) 460-2261 FAX (757) 460-2372

February 1, 1999

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York

Mr. Clyde Gantt
Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, VA 23462

Dear Mr. Gantt:

HRSD has reviewed the "Initial Dilution Analysis for the HRSD Nansemond Plant" submitted to your office in July 1998 as requested per our phone conversation of February 1, 1999. HRSD did use the incorrect nearfield dilution of 746:1 in the model. This dilution had been determined by for the original 10 MGD Nansemond facility. A nearfield dilution of 600:1 was determined by Hydroqual using a linear interpolation as referenced in HRSD's letter of May 1992 to Raleigh Smith of DEQ-TRO.

HRSD inputted the correct nearfield dilution of 600:1 and ran the program again. There was minimal impact as the initial dilution changed from 75:1 to 73:1. Enclosed is a corrected copy of the model input data sheet for your reference.

Thank you for bringing this error to our attention so that we may correct this oversight. Please contact me at 460-4245 if you desire further information.

Sincerely,

Sharon Nicklas
Sharon Nicklas
Permits Manager

Enclosure



Table 1. UM model input data and results - Nansemond plant

1. Tidal current, water depth, and plant flow rate data

Tidally averaged current ^a (m/sec)	0.29
Natural water depth (m)	6.6
Plant flow (mgd)	30

2. Outfall configurations

	As-built	As-modeled
Diffuser length (m)	200	
Total number of ports	40	20 ^b
Depth from surface (m)	6.9	6.9
Elevation from bottom (m)	1.92	1.92
Port diameter (m)	0.23	0.323 ^c
Adjacent port spacing (m)	3.05	3.05
Vertical orientation angle	0	0
Horizontal orientation angle	90	90

3. Initial dilution results

	Horizontal distance (m)	Travel time (sec)	Raw UM dilution	Effective dilution ^d
13-Jul-94	15	45	83	73
27-Sep-95	13	41	82	73
Average	14	43	83	73

Notes:

- a. Tidal current information was derived from NOAA predictions for location at Pig Point (5196)
Maximum flood current=0.8 knots, Maximum ebb current=1.0 knots
- b. Number of ports were halved
- c. Port area was doubled to represent realistic exit velocities. Port area= $\pi \times \text{port radius}^2$
Actual port diameter of 0.23m=0.04m² area, modeled port diameter of 0.323m=0.08m² area
- d. Effective dilution includes a nearfield correction factor of 600.



Commonwealth of Virginia

HAMPTON ROADS SANITATION DISTRICT

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DIR. OF WATER QUALITY

P. O. BOX 5000
VIRGINIA BEACH, VIRGINIA 23455
(804) 460-2261 FAX (804) 460-2372

May 20, 1992

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Mr. Raleigh Smith
State Water Control Board
Tidewater Regional Office
287 Pembroke Office Park
Pembroke Two
Suite 310
Virginia Beach, Virginia 23462

REF: Nansemond Permit Application

Dear Raleigh:

I discussed with John St. John of HydroQual, the issue of estimating the mixing zone dilution at for the expanded 30 MGD facility. He indicated that the assumption of linearity can be made to estimate the reduced dilution due to the increase in flow at the plant. This can be done by using the two analyses he conducted for us, one at 10 MGD (746:1) and the one for assessing the potential for a 100 MGD facility (100:1). A linear interpolation of these two dilutions indicates that the mixing zone dilution for 30 MGD would be approximately 600:1.

In reviewing the permit application and the new SWCB guidance on toxics permitting outlined in the ORWM Guidance Memo No. 92-012 (April 13, 1992), I noticed that the recommended approaches to permitting ammonia were directed at free flowing streams and not estuarine situations. The attached documents demonstrates an alternative approach which considers the differences between free flowing streams and estuaries.

I noticed in the ORWM Guidance that it recommends that any unusual permitting situations be discussed with Headquarters. This alternative approach I have outlined may fit into that category and I would be happy to meet with the staff of TRO and Headquarters to provide a briefing and to discuss the approach if necessary.



2-92

I am still getting familiar with the permitting process and now realize that ideally I should have provided this analyses with the permit application. I am taking steps now to insure that the District provides this type of analyses for all our permit applications in the future. I will be discussing with you this type of approach and definitely seek your input as to what kind of data would also benefit your analyses.

I hope this is of some help in your analyses of the Nansemond permit. Please feel free to call if you would like to discuss this or any other aspect of the permit.

Sincerely,



Norman E. LeBlanc
Chief of Technical Services

Enclosures

Hampton Roads Sanitation District
Virginia Beach, Virginia 23455

MIXING ZONE ANALYSIS FOR FIVE
WASTEWATER TREATMENT PLANTS OF
THE HAMPTON ROADS SANITATION DISTRICT

Job Number: HRSD0020

Prepared by:

HydroQual, Inc.
1 Lethbridge Plaza
Mahwah, New Jersey 07430

March 1991

current velocities. Maximum tidal currents produced by the model and reported in the 1990 Tidal Current Tables and the study of Neilson and Boule (1975) are approximately 0.6 m/sec. In addition, the circulation in this region can be complex. Just upstream of Newport News Point is an estuarine front, a region in which surface water is injected to depths of 4 meters or more during flood tide, thus increasing vertical dispersion, as well as potentially driving diluted effluent upstream (Kuo et al., 1988). Thus, in addition to the dilution achieved within the discharge segment, there is likely to be considerably more dilution in the direct vicinity due to estuarine circulation patterns.

A conservative substance discharged from the Chesapeake-Elizabeth Treatment Plant is diluted 1111 to 1 in the discharge segment. This large value is primarily because the plant discharges directly into lower Chesapeake Bay near the Atlantic Ocean, where there is a large amount of flushing due to tidal motion.

Dilution of the 10 mgd Nansemond effluent is 746 to 1 in the discharge segment. This is approximately ten times as great as the dilution reported by HydroQual (1990) in a preliminary study of the potential impacts of an expansion of the Nansemond plant from 10 to 100 MGD (67-77 to 1 at 100 MGD). The diffuser is located near the center of the James River. Complex circulation in the Hampton Roads area leads to a large degree of dilution of this effluent.


A conservative substance discharged from the Virginia Initiative Plant is diluted 32 to 1 in the segment containing the diffuser and 136 to 1 in the segment containing the Army Base outfall. At the mouth of the Elizabeth River, the effluent is diluted approximately 330 to 1. The relatively low dilution factor at the point of discharge is probably the result of the limited degree of tidal flushing and the very limited freshwater flow in the Elizabeth River. In considering the design of an outfall for the proposed Virginia Initiative Plant, HydroQual (1985) studied the dilution of a conservative substance from VIP, using a steady-state model with a one-dimensional grid of the Elizabeth

6/14/04 10:57 AM

Gantt, Clyde

From: Nicklas, Sharon [SNICKLAS@HRSD.COM]
Sent: Tuesday, June 01, 2004 9:07 AM
To: Gantt, Clyde
Cc: Pletl, Jim
Subject: Nansemond temp

Clyde,

^{90th} 
The ~~80th~~ percentile temperature for Nansemond is 28 degrees Celsius. Give Jim Pletl a call if you got any questions.

Sharon Nicklas
Hampton Roads Sanitation District
757-460-4245

SALTWATER AND TRANSITION ZONES WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

*Created by CKG
during initial permit
draft. DDP*

Facility Name: HRSD Nansemond STP
Receiving Stream: James River

Permit No.: VA0081299

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = mg/l
90th % Temperature (Annual) = 26.2 (°C)
90th % Temperature (Winter) = (°C)
90th % Maximum pH = 7.92
10th % Maximum pH = 7.5
Tier Designation (1 or 2) = 1
Early Life Stages Present Y/N =
Tidal Zone = 1 (1 = saltwater, 2 = transition zone)
Mean Salinity = 21.02 (g/kg)

Mixing Information

Design Flow (MGD) 30
Acute WLA multiplier 73
Chronic WLA multiplier 600
Human health WLA multiplier 600

Effluent Information

Mean Hardness (as CaCO₃) = 56 mg/L
90 % Temperature (Annual) = 28 (°C)
90 % Temperature (Winter) = (°C)
90 % Maximum pH = 7.4 SU
10 % Maximum pH = 7.15 SU
Discharge Flow = 30 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Acenaphthene	0	--	--	2.7E+03	--	--	1.6E+06	--	--	--	--	--	--	--	--	1.6E+06
Acrolein		--	--	7.8E+02	--	--	4.7E+05	--	--	--	--	--	--	--	--	4.7E+05
Acrylonitrile ^C		--	--	6.6E+00	--	--	4.0E+03	--	--	--	--	--	--	--	--	4.0E+03
Aldrin ^C	0	1.3E+00	--	1.4E-03	9.5E+01	--	8.4E-01	--	--	--	--	--	--	9.5E+01	--	8.4E-01
Ammonia-N (mg/l) - Annual	0	4.5E+00	6.7E-01	--	3.3E+02	4.0E+02	--	--	--	--	--	--	--	3.3E+02	4.0E+02	--
Ammonia-N (mg/l) - Winter	0	#####	#####	--	#VALUE!	#VALUE!	--	--	--	--	--	--	--	#VALUE!	#VALUE!	--
Anthracene	0	--	--	1.1E+05	--	--	6.6E+07	--	--	--	--	--	--	--	--	6.6E+07
Antimony	0	--	--	4.3E+03	--	--	2.6E+06	--	--	--	--	--	--	--	--	2.6E+06
Arsenic	0	6.9E+01	3.6E+01	--	5.0E+03	2.2E+04	--	--	--	--	--	--	--	5.0E+03	2.2E+04	--
Benzene ^C	0	--	--	7.1E+02	--	--	4.3E+05	--	--	--	--	--	--	--	--	4.3E+05
Benzidine ^C		--	--	5.4E-03	--	--	3.2E+00	--	--	--	--	--	--	--	--	3.2E+00
Benzo (a) anthracene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Benzo (b) fluoranthene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Benzo (k) fluoranthene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Benzo (a) pyrene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Bis(2-Chloroethyl) Ether		--	--	1.4E+01	--	--	8.4E+03	--	--	--	--	--	--	--	--	8.4E+03
Bis(2-Chloroisopropyl) Ether		--	--	1.7E+05	--	--	1.0E+08	--	--	--	--	--	--	--	--	1.0E+08
Bromoform ^C	0	--	--	3.6E+03	--	--	2.2E+06	--	--	--	--	--	--	--	--	2.2E+06
Butylbenzylphthalate	0	--	--	5.2E+03	--	--	3.1E+06	--	--	--	--	--	--	--	--	3.1E+06
Cadmium	0	4.0E+01	8.8E+00	--	2.9E+03	5.3E+03	--	--	--	--	--	--	--	2.9E+03	5.3E+03	--
Carbon Tetrachloride ^C	0	--	--	4.4E+01	--	--	2.6E+04	--	--	--	--	--	--	--	--	2.6E+04
Chlordane ^C	0	9.0E-02	4.0E-03	2.2E-02	6.6E+00	2.4E+00	1.3E+01	--	--	--	--	--	--	6.6E+00	2.4E+00	1.3E+01
TRC	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chlorine Prod. Oxidant	0	1.3E+01	7.5E+00	--	9.5E+02	4.5E+03	--	--	--	--	--	--	--	9.5E+02	4.5E+03	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Chlorobenzene		--	--	2.1E+04	--	--	1.3E+07	--	--	--	--	--	--	--	--	1.3E+07
Chlorodibromomethane ^C	0	--	--	3.4E+02	--	--	2.0E+05	--	--	--	--	--	--	--	--	2.0E+05
Chloroform ^C	0	--	--	2.9E+04	--	--	1.7E+07	--	--	--	--	--	--	--	--	1.7E+07
2-Chloronaphthalene	0	--	--	4.3E+03	--	--	2.6E+06	--	--	--	--	--	--	--	--	2.6E+06
2-Chlorophenol	0	--	--	4.0E+02	--	--	2.4E+05	--	--	--	--	--	--	--	--	2.4E+05
Chlorpyrifos	0	1.1E-02	5.6E-03	--	8.0E-01	3.4E+00	--	--	--	--	--	--	--	8.0E-01	3.4E+00	--
Chromium III	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI	0	1.1E+03	5.0E+01	--	8.0E+04	3.0E+04	--	--	--	--	--	--	--	8.0E+04	3.0E+04	--
Chrysene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Copper	0	9.3E+00	6.0E+00	--	6.8E+02	3.6E+03	--	--	--	--	--	--	--	6.8E+02	3.6E+03	--
Cyanide	0	1.0E+00	1.0E+00	2.2E+05	7.3E+01	6.0E+02	1.3E+08	--	--	--	--	--	--	7.3E+01	6.0E+02	1.3E+08
DDD ^C	0	--	--	8.4E-03	--	--	5.0E+00	--	--	--	--	--	--	--	--	5.0E+00
DDE ^C	0	--	--	5.9E-03	--	--	3.5E+00	--	--	--	--	--	--	--	--	3.5E+00
DDT ^C	0	1.3E-01	1.0E-03	5.9E-03	9.5E+00	6.0E-01	3.5E+00	--	--	--	--	--	--	9.5E+00	6.0E-01	3.5E+00
Demeton	0	--	1.0E-01	--	--	6.0E+01	--	--	--	--	--	--	--	--	6.0E+01	--
Dibenz(a,h)anthracene ^C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Dibutyl phthalate	0	--	--	1.2E+04	--	--	7.2E+06	--	--	--	--	--	--	--	--	7.2E+06
Dichloromethane (Methylene Chloride) ^C	0	--	--	1.6E+04	--	--	9.6E+06	--	--	--	--	--	--	--	--	9.6E+06
1,2-Dichlorobenzene	0	--	--	1.7E+04	--	--	1.0E+07	--	--	--	--	--	--	--	--	1.0E+07
1,3-Dichlorobenzene	0	--	--	2.6E+03	--	--	1.6E+06	--	--	--	--	--	--	--	--	1.6E+06
1,4-Dichlorobenzene	0	--	--	2.6E+03	--	--	1.6E+06	--	--	--	--	--	--	--	--	1.6E+06
3,3-Dichlorobenzidine ^C	0	--	--	7.7E-01	--	--	4.6E+02	--	--	--	--	--	--	--	--	4.6E+02
Dichlorobromomethane ^C	0	--	--	4.6E+02	--	--	2.8E+05	--	--	--	--	--	--	--	--	2.8E+05
1,2-Dichloroethane ^C	0	--	--	9.9E+02	--	--	5.9E+05	--	--	--	--	--	--	--	--	5.9E+05
1,1-Dichloroethylene	0	--	--	1.7E+04	--	--	1.0E+07	--	--	--	--	--	--	--	--	1.0E+07
1,2-trans-dichloroethylene	0	--	--	1.4E+05	--	--	8.4E+07	--	--	--	--	--	--	--	--	8.4E+07
2,4-Dichlorophenol	0	--	--	7.9E+02	--	--	4.7E+05	--	--	--	--	--	--	--	--	4.7E+05
1,2-Dichloropropane ^C	0	--	--	3.9E+02	--	--	2.3E+05	--	--	--	--	--	--	--	--	2.3E+05
1,3-Dichloropropene	0	--	--	1.7E+03	--	--	1.0E+06	--	--	--	--	--	--	--	--	1.0E+06
Dieldrin ^C	0	7.1E-01	1.9E-03	1.4E-03	5.2E+01	1.1E+00	8.4E-01	--	--	--	--	--	--	5.2E+01	1.1E+00	8.4E-01
Diethyl Phthalate	0	--	--	1.2E+05	--	--	7.2E+07	--	--	--	--	--	--	--	--	7.2E+07
Di-2-Ethylhexyl Phthalate ^C	0	--	--	5.9E+01	--	--	3.5E+04	--	--	--	--	--	--	--	--	3.5E+04
2,4-Dimethylphenol	0	--	--	2.3E+03	--	--	1.4E+06	--	--	--	--	--	--	--	--	1.4E+06
Dimethyl Phthalate	0	--	--	2.9E+06	--	--	1.7E+09	--	--	--	--	--	--	--	--	1.7E+09
Di-n-Butyl Phthalate	0	--	--	1.2E+04	--	--	7.2E+06	--	--	--	--	--	--	--	--	7.2E+06
2,4 Dinitrophenol	0	--	--	1.4E+04	--	--	8.4E+06	--	--	--	--	--	--	--	--	8.4E+06
2-Methyl-4,6-Dinitrophenol	0	--	--	7.65E+02	--	--	4.6E+05	--	--	--	--	--	--	--	--	4.6E+05
2,4-Dinitrotoluene ^C	0	--	--	9.1E+01	--	--	5.5E+04	--	--	--	--	--	--	--	--	5.5E+04
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	1.2E-06	--	--	7.2E-04	--	--	--	--	--	--	--	--	7.2E-04
1,2-Diphenylhydrazine ^C	0	--	--	5.4E+00	--	--	3.2E+03	--	--	--	--	--	--	--	--	3.2E+03
Alpha-Endosulfan	0	3.4E-02	8.7E-03	2.4E+02	2.5E+00	5.2E+00	1.4E+05	--	--	--	--	--	--	2.5E+00	5.2E+00	1.4E+05

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
Beta-Endosulfan	0	3.4E-02	8.7E-03	2.4E+02	2.5E+00	5.2E+00	1.4E+05	--	--	--	--	--	--	2.5E+00	5.2E+00	1.4E+05
Endosulfan Sulfate	0	--	--	2.4E+02	--	--	1.4E+05	--	--	--	--	--	--	--	--	1.4E+05
Endrin	0	3.7E-02	2.3E-03	8.1E-01	2.7E+00	1.4E+00	4.9E+02	--	--	--	--	--	--	2.7E+00	1.4E+00	4.9E+02
Endrin Aldehyde	0	--	--	8.1E-01	--	--	4.9E+02	--	--	--	--	--	--	--	--	4.9E+02
Ethylbenzene	0	--	--	2.9E+04	--	--	1.7E+07	--	--	--	--	--	--	--	--	1.7E+07
Fluoranthene	0	--	--	3.7E+02	--	--	2.2E+05	--	--	--	--	--	--	--	--	2.2E+05
Fluorene	0	--	--	1.4E+04	--	--	8.4E+06	--	--	--	--	--	--	--	--	8.4E+06
Guthion	0	--	1.0E-02	--	--	6.0E+00	--	--	--	--	--	--	--	--	6.0E+00	--
Heptachlor ^C	0	5.3E-02	3.6E-03	2.1E-03	3.9E+00	2.2E+00	1.3E+00	--	--	--	--	--	--	3.9E+00	2.2E+00	1.3E+00
Heptachlor Epoxide ^C	0	5.3E-02	3.6E-03	1.1E-03	3.9E+00	2.2E+00	6.6E-01	--	--	--	--	--	--	3.9E+00	2.2E+00	6.6E-01
Hexachlorobenzene ^C	0	--	--	7.7E-03	--	--	4.6E+00	--	--	--	--	--	--	--	--	4.6E+00
Hexachlorobutadiene ^C	0	--	--	5.0E+02	--	--	3.0E+05	--	--	--	--	--	--	--	--	3.0E+05
Hexachlorocyclohexane Alpha-BHC ^C	0	--	--	1.3E-01	--	--	7.8E+01	--	--	--	--	--	--	--	--	7.8E+01
Hexachlorocyclohexane Beta-BHC ^C	0	--	--	4.6E-01	--	--	2.8E+02	--	--	--	--	--	--	--	--	2.8E+02
Hexachlorocyclohexane Gamma-BHC ^C (Lindane)	0	1.6E-01	--	6.3E-01	1.2E+01	--	3.8E+02	--	--	--	--	--	--	1.2E+01	--	3.8E+02
Hexachlorocyclopentadiene	0	--	--	1.7E+04	--	--	1.0E+07	--	--	--	--	--	--	--	--	1.0E+07
Hexachloroethane ^C	0	--	--	8.9E+01	--	--	5.3E+04	--	--	--	--	--	--	--	--	5.3E+04
Hydrogen Sulfide	0	--	2.0E+00	--	--	1.2E+03	--	--	--	--	--	--	--	--	1.2E+03	--
Indeno (1,2,3-cd) pyrene C	0	--	--	4.9E-01	--	--	2.9E+02	--	--	--	--	--	--	--	--	2.9E+02
Isophorone ^C	0	--	--	2.6E+04	--	--	1.6E+07	--	--	--	--	--	--	--	--	1.6E+07
Kepone	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	--	0.0E+00	--
Lead	0	2.4E+02	9.3E+00	--	1.8E+04	5.6E+03	--	--	--	--	--	--	--	1.8E+04	5.6E+03	--
Malathion	0	--	1.0E-01	--	--	6.0E+01	--	--	--	--	--	--	--	--	6.0E+01	--
Mercury	0	1.8E+00	9.4E-01	5.1E-02	1.3E+02	5.6E+02	3.1E+01	--	--	--	--	--	--	1.3E+02	5.6E+02	3.1E+01
Methyl Bromide	0	--	--	4.0E+03	--	--	2.4E+06	--	--	--	--	--	--	--	--	2.4E+06
Methoxychlor	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
Mirex	0	--	0.0E+00	--	--	0.0E+00	--	--	--	--	--	--	--	--	0.0E+00	--
Monochlorobenzene	0	--	--	2.1E+04	--	--	1.3E+07	--	--	--	--	--	--	--	--	1.3E+07
Nickel	0	7.4E+01	8.2E+00	4.6E+03	5.4E+03	4.9E+03	2.8E+06	--	--	--	--	--	--	5.4E+03	4.9E+03	2.8E+06
Nitrobenzene	0	--	--	1.9E+03	--	--	1.1E+06	--	--	--	--	--	--	--	--	1.1E+06
N-Nitrosodimethylamine ^C	0	--	--	8.1E+01	--	--	4.9E+04	--	--	--	--	--	--	--	--	4.9E+04
N-Nitrosodiphenylamine ^C	0	--	--	1.6E+02	--	--	9.6E+04	--	--	--	--	--	--	--	--	9.6E+04
N-Nitrosodi-n-propylamine ^C	0	--	--	1.4E+01	--	--	8.4E+03	--	--	--	--	--	--	--	--	8.4E+03
Parathion	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB-1016	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB-1221	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB-1232	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB-1242	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB-1248	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB-1254	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH	Acute	Chronic	HH
PCB-1260	0	--	3.0E-02	--	--	1.8E+01	--	--	--	--	--	--	--	--	1.8E+01	--
PCB Total ^C	0	--	--	1.7E-03	--	--	1.0E+00	--	--	--	--	--	--	--	--	1.0E+00
Pentachlorophenol ^C	0	1.3E+01	7.9E+00	8.2E+01	9.5E+02	4.7E+03	4.9E+04	--	--	--	--	--	--	9.5E+02	4.7E+03	4.9E+04
Phenol	0	--	--	4.6E+06	--	--	2.8E+09	--	--	--	--	--	--	--	--	2.8E+09
Phosphorus (Elemental)	0	--	0.1	--	--	6.0E+01	--	--	--	--	--	--	--	--	6.0E+01	--
Pyrene	0	--	--	1.1E+04	--	--	6.6E+06	--	--	--	--	--	--	--	--	6.6E+06
Radionuclides (pCi/l except Beta/Photon)	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gross Alpha Activity Beta and Photon Activity (mrem/yr)	0	--	--	1.5E+01	--	--	9.0E+03	--	--	--	--	--	--	--	--	9.0E+03
Strontium-90	0	--	--	4.0E+00	--	--	2.4E+03	--	--	--	--	--	--	--	--	2.4E+03
Tritium	0	--	--	8.0E+00	--	--	4.8E+03	--	--	--	--	--	--	--	--	4.8E+03
Selenium	0	--	--	2.0E+04	--	--	1.2E+07	--	--	--	--	--	--	--	--	1.2E+07
Silver	0	3.0E+02	7.1E+01	1.1E+04	2.2E+04	4.3E+04	6.6E+06	--	--	--	--	--	--	2.2E+04	4.3E+04	6.6E+06
1,1,2,2-Tetrachloroethane ^C	0	2.0E+00	--	--	1.5E+02	--	--	--	--	--	--	--	--	1.5E+02	--	--
Tetrachloroethylene ^C	0	--	--	1.1E+02	--	--	6.6E+04	--	--	--	--	--	--	--	--	6.6E+04
Thallium	0	--	--	8.9E+01	--	--	5.3E+04	--	--	--	--	--	--	--	--	5.3E+04
Toluene	0	--	--	6.3E+00	--	--	3.8E+03	--	--	--	--	--	--	--	--	3.8E+03
Toxaphene ^C	0	--	--	2.0E+05	--	--	1.2E+08	--	--	--	--	--	--	--	--	1.2E+08
Tributyltin	0	2.1E-01	2.0E-04	7.5E-03	1.5E+01	1.2E-01	4.5E+00	--	--	--	--	--	--	1.5E+01	1.2E-01	4.5E+00
1,2,4-Trichlorobenzene	0	3.8E-01	1.0E-03	--	2.8E+01	6.0E-01	--	--	--	--	--	--	--	2.8E+01	6.0E-01	--
1,1,2-Trichloroethane ^C	0	--	--	9.4E+02	--	--	5.6E+05	--	--	--	--	--	--	--	--	5.6E+05
Trichloroethylene ^C	0	--	--	4.2E+02	--	--	2.5E+05	--	--	--	--	--	--	--	--	2.5E+05
2,4,6-Trichlorophenol ^C	0	--	--	8.1E+02	--	--	4.9E+05	--	--	--	--	--	--	--	--	4.9E+05
Vinyl Chloride ^C	0	--	--	6.5E+01	--	--	3.9E+04	--	--	--	--	--	--	--	--	3.9E+04
Zinc	0	--	--	6.1E+01	--	--	3.7E+04	--	--	--	--	--	--	--	--	3.7E+04
	0	9.0E+01	8.1E+01	6.9E+04	6.6E+03	4.9E+04	4.1E+07	--	--	--	--	--	--	6.6E+03	4.9E+04	4.1E+07

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- For transition zone waters, spreadsheet prints the lesser of the freshwater and saltwater water quality criteria.
- Regular WLA = (WQC x WLA multiplier) - (WLA multiplier - 1)(background conc.)
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- Antideg. WLA = (Antideg. Baseline)(WLA multiplier) - (WLA multiplier - 1)(background conc.)

Metal	Site Specific	
	Target Value (SSTV)	
Antimony	2.6E+06	
Arsenic III	2.0E+03	
Cadmium	1.2E+03	
Chromium III	#VALUE!	
Chromium VI	1.8E+04	
Copper	2.7E+02	
Lead	3.3E+03	
Mercury	3.1E+01	
Nickel	2.2E+03	
Selenium	8.8E+03	
Silver	5.8E+01	
Zinc	2.6E+03	

Note: do not use QL's lower than the minimum QL's provided in agency guidance



Nansemond Bacteria Data

Sample Date	Residual (mg/l)	Enterococcus (MPN)	Contact Tank Detention Time (minutes)	Plant Flow Rate (mgd)
5/26/04	2.0	<1	32.3	22.62
5/28/04	1.7	2	32.8	22.31
6/2/04	2.2	<1	33.4	21.88
6/4/04	2.1	<1	32.7	22.35
6/7/04	1.9	<1	31.7	23.11
6/9/04	2.0	<1	32.4	22.60
6/11/04	1.7	<1	28.1	26.07
6/14/04	2.1	<1	32.0	22.84
6/16/04	1.8	<1	29.7	24.61
6/18/04	1.6	<1	32.7	22.38
6/21/04	1.7	<1	33.1	22.13
6/23/04	1.7	<1	33.8	21.66
6/25/04	1.8	4	32.4	22.60

Geometric average 3

Maximum result 4

Enterococcus Method - ASTM D6503

Austin,Deanna

From: Austin,Deanna
Sent: Friday, August 10, 2007 11:15 AM
To: Skiles, Keith (VDH); Horne, Daniel (VDH)
Subject: FYI about Chlorine Condition

Keith and Dan,

Just to let you know that the wording that was created and used for the Chesapeake-Elizabeth plant will be carried forward to the other plants as well as they are reissued.

Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd
Virginia Beach, VA 23462
Phone: 757-518-2008
Fax: 757-518-2009

8/10/2007

Austin,Deanna

From: Horne, Daniel (VDH)
Sent: Tuesday, July 24, 2007 10:06 AM
To: Austin,Deanna
Cc: Skiles, Keith (VDH); Butler, Kimberly
Subject: [Fwd: Follow-up Email on HRSD-Ches Liz]

Deanna -

I apologize for not replying sooner. Your original message got lost in a pile, and I just found it yesterday, about the time your new message arrived.

I am fine with what is proposed here, which sets up two trigger levels: (1) the first is when there is an extended period of "lower than standard" residual levels (this could be considered a "moderate term threshold"); and (2) the second is when there appears to be a "loss of chlorination" (an "immediate response" situation).

As I understand the permits, having residuals less than the thresholds triggers a requirement to report to DEQ but not a violation. That's acceptable and proper. My only concern is that there not be any way to "sample out" of the second situation (i.e., collect a repeat sample in the next fifteen minutes that is above 0.1, and not have to report the situation). The problem there is that one doesn't know when the residual dropped below 0.1 - it could have been just before the initial sample was collected, or it could have been an hour-plus before. I would suggest that the re-sample might be used as part of the report, but not to eliminate the requirement for a report. If I remember correctly, this issue was a sticking point in the previous discussions.

Dan H.

----- Original Message -----

Subject: Follow-up Email on HRSD-Ches Liz

Date: Mon, 23 Jul 2007 15:25:34 -0400

From: Austin,Deanna <ddaustin@deq.virginia.gov>

To: Skiles, Keith (VDH) <Keith.Skiles@vdh.virginia.gov>, Horne, Daniel (VDH) <Daniel.Horne@vdh.virginia.gov>

On 6/29/07 I sent you both an email (copied below) on the chlorine special condition that we plan to put in the HRSD Ches Liz permit. To date I had not had any comments from you and wanted to follow-up to make sure that you have no major concerns with the proposed language. Please respond. Thanks.

EMAIL FROM 6/29:

After much discussion with Kim and HRSD and seeing both Dan and Keith's comments. I propose the following condition.

Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements

1. a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank, prior to dechlorination, every two hours by grab sample.

8/10/2007

b. No more than 36 of all samples taken after the chlorine contact tank, prior to dechlorination, shall be less than 1.5 mg/l for any one calendar month.

c. The facility shall operate the chlorination facilities in a manner, which will ensure continuous disinfection. The permittee shall notify the DEQ in the event TRC sample collected prior to dechlorination is less than 0.6 mg/l for 3 or more consecutive readings or the TRC sample collected is less than 0.1 mg/l. Reporting will be conducted in accordance with Part II.H. of the permit.

After talking with Kim it appears that the biggest concern is to know when there is a total loss of disinfection. Keep in mind that not all HRSD plants have 0.6 mg/L in their permits. Some of the plants have submitted studies in the past and have had this number lowered in previous permit cycles.

If any of you have any comments about the newly proposed condition, please let me know by Tuesday (7/3). If there are no significant comments, I'll proceed with the above language. I think the language above gets us what we want which is to know when there is a loss of chlorination. Thanks!

Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd
Virginia Beach, VA 23462
Phone: 757-518-2008
Fax: 757-518-2009

Austin, Deanna

From: Skiles, Keith (VDH)
Sent: Monday, July 23, 2007 3:56 PM
To: Austin, Deanna
Subject: RE: Follow-up Email on HRSD-Ches Liz

I don't see any issues with it.
Keith

-----Original Message-----

From: Austin, Deanna [mailto:ddaustin@deq.virginia.gov]
Sent: Monday, July 23, 2007 3:26 PM
To: Skiles, Keith (VDH); Horne, Daniel (VDH)
Subject: Follow-up Email on HRSD-Ches Liz

On 6/29/07 I sent you both an email (copied below) on the chlorine special condition that we plan to put in the HRSD Ches Liz permit. To date I had not had any comments from you and wanted to follow-up to make sure that you have no major concerns with the proposed language. Please respond. Thanks.

EMAIL FROM 6/29:

After much discussion with Kim and HRSD and seeing both Dan and Keith's comments. I propose the following condition.

ADDITIONAL TOTAL RESIDUAL CHLORINE (TRC) LIMITATIONS AND MONITORING REQUIREMENTS

1. a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank, prior to dechlorination, every two hours by grab sample.
- b. No more than 36 of all samples taken after the chlorine contact tank, prior to dechlorination, shall be less than 1.5 mg/l for any one calendar month.
- c. The facility shall operate the chlorination facilities in a manner, which will ensure continuous disinfection. The permittee shall notify the DEQ in the event TRC sample collected prior to dechlorination is less than 0.6 mg/l for 3 or more consecutive readings or the TRC sample collected is less than 0.1 mg/l. Reporting will be conducted in accordance with Part II.H. of the permit.

After talking with Kim it appears that the biggest concern is to know when there is a total loss of disinfection. Keep in mind that not all HRSD plants have 0.6 mg/L in their permits. Some of the plants have submitted studies in the past and have had this number lowered in previous permit cycles.

If any of you have any comments about the newly proposed condition, please let me know by Tuesday (7/3). If there are no significant comments, I'll proceed with the above language. I think the language above gets us what we want which is to know when there is a loss of chlorination. Thanks!

Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd

8/10/2007

Virginia Beach, VA 23462

Phone: 757-518-2008

Fax: 757-518-2009

Austin, Deanna

From: Austin, Deanna
Sent: Friday, June 29, 2007 10:31 AM
To: Butler, Kimberly; Skiles, Keith (VDH); Horne, Daniel (VDH)
Subject: HRSD Chlorine Conditions

Tracking:

Recipient	Read
Butler, Kimberly	Read: 6/29/2007 10:49 AM
Skiles, Keith (VDH)	
Horne, Daniel (VDH)	

After much discussion with Kim and HRSD and seeing both Dan and Keith's comments. I propose the following condition.

ADDITIONAL TOTAL RESIDUAL CHLORINE (TRC) LIMITATIONS AND MONITORING REQUIREMENTS

1. a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank, prior to dechlorination, every two hours by grab sample.
- b. No more than 36 of all samples taken after the chlorine contact tank, prior to dechlorination, shall be less than 1.5 mg/l for any one calendar month.
- c. The facility shall operate the chlorination facilities in a manner, which will ensure continuous disinfection. The permittee shall notify the DEQ in the event TRC sample collected prior to dechlorination is less than 0.6 mg/l for 3 or more consecutive readings or the TRC sample collected is less than 0.1 mg/l. Reporting will be conducted in accordance with Part II.H. of the permit.

After talking with Kim it appears that the biggest concern is to know when there is a total loss of disinfection. Keep in mind that not all HRSD plants have 0.6 mg/L in their permits. Some of the plants have submitted studies in the past and have had this number lowered in previous permit cycles.

If any of you have any comments about the newly proposed condition, please let me know by Tuesday (7/3). If there are no significant comments, I'll proceed with the above language. I think the language above gets us what we want which is to know when there is a loss of chlorination. Thanks!

Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd
Virginia Beach, VA 23462
Phone: 757-518-2008
Fax: 757-518-2009

7/5/2007

Austin, Deanna

From: Skiles, Keith (VDH)
Sent: Friday, June 29, 2007 9:24 AM
To: Austin, Deanna
Subject: RE: [Fwd: HRSD Chlorine Special condition]

Deanna,

Thanks for letting me know what you are working on. This is getting into some detail though that we would normally rely on the engineering side to answer for us. It probably goes without saying that we would certainly be concerned if either effluent quality or disinfection dosage falls below what is considered adequate. We just aren't in a position to specify what those levels are without some consultation. If as Dan suggests there is an existing agreement between VDH and DEQ that establishes 0.6 as that level for chlorine then we would have no reason to change it.

In the not too distant future, FDA is likely to press us (in Shellfish Sanitation) to develop management plans to deal with the performance of sewage treatment facilities that have outfalls in shellfish waters. We currently have shellfish closures based on plants operating properly, and when we are notified of a failure we make a decision about whether to close additional waters and how much to close on a case-by-case basis. This would basically make us decide what a likely failure would be and establish what the closure would be before a failure happened. As you are going through questions like these, letting us know what is generally accepted as a minimum performance standards may be helpful for us in developing these plans.

As far as the and/or question, it would seem to me that it should be "or". If not, then a computed TRC of < 1.0 would allow a plant to skip reporting even if the actual measurement was < 0.6, which to me does not sound like a good idea.

Keith

-----Original Message-----

From: Austin, Deanna [mailto:ddaustin@deq.virginia.gov]
Sent: Tuesday, June 26, 2007 7:48 AM
To: Skiles, Keith (VDH)
Subject: FW: [Fwd: HRSD Chlorine Special condition]

Keith,

Dan suggested that I include you on the chlorine discussion below concerning HRSD facilities.

Instead of the "and/or" issue below, HRSD is proposing that we include a condition that they report to us when they have 4 consecutive TRC readings that fall below a certain level. In the case of Ches-Liz we would keep that level at 0.6 mg/l. Is this something that you would find acceptable? Also, please let me know what you think about the and/or issue. I will send Dan an email about the 4 consecutive TRC readings to find out what he thinks as well.

Thanks,
Deanna

-----Original Message-----

From: Horne, Daniel (VDH)
Sent: Friday, June 22, 2007 10:13 AM
To: Austin, Deanna
Subject: [Fwd: HRSD Chlorine Special condition]

Deanna -

I don't recall the discussion from back in 2004, but based on what I see here, I would suggest that the word NOT be changed from "or" to "and" - it should remain as "or". If I remember correctly, the 0.6 mg/L was chosen because that was the lower limit from the chlorine reduction study performed a number of years ago - I believe that the agreement between VDH and DEQ at that time was that having a residual of below 0.6 mg/L would

7/5/2007

suggest that the effluent was not properly disinfected.

Back in 2004, the Office of Drinking Water was acting as the sole voice for VDH - we collected comments from Shellfish Sanitation and the Local Health Departments, and incorporated those into our comments. That process has now changed, and ODW only speaks to potential or actual impacts to public water supply sources. DSS is contacted by DEQ and provides comments directly to DEQ on impacts to shellfish waters. I would suggest that you also check with DSS to see if they would have any concerns.

Dan H.

----- Original Message -----

Subject:HRSD Chlorine Special condition

Date:Thu, 21 Jun 2007 11:00:10 -0400

From:Austin,Deanna <ddaustin@deq.virginia.gov>

To:Horne, Daniel (VDH) <Daniel.Horne@vdh.virginia.gov>

Dan,

I am currently working on the reissuance of the HRSD permits that was first started in 2004. Because of some litigation, there was a hold up but we are now able to process. Clyde was working on these but is out for military leave. When I was going through his file I ran across an email from you dated 3/16/04 concerning disinfection reporting. Clyde had written you on 3/1/04 stating that he was planning on changing the following condition in red. The change purposed would change the bold OR to an AND.

ADDITIONAL TOTAL RESIDUAL CHLORINE (TRC) LIMITATIONS AND MONITORING REQUIREMENTS

1. a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank, prior to dechlorination, every two hours by grab sample.
- b. No more than 36 of all samples taken after the chlorine contact tank, prior to dechlorination, shall be less than 1.5 mg/l for any one calendar month.
- c. The facility shall operate the chlorination facilities in a manner, which will ensure continuous disinfection. The permittee shall notify the DEQ in the event that the computed chlorine dosage falls below 1.0 mg/l **OR** the TRC sample collected prior to dechlorination is less than 0.6 mg/l. Reporting will be conducted in accordance with Part II.H. of the permit.

In the email back and forth between you and Clyde there seems to be some misinformation of numbers. The condition above is what is currently in their permit and the change purposed would just be the change to an "and". I have spoke to Kim Butler about this change and she feels that it may cause an issue in that they would not have to report when they are below 0.6 mg/l. I wanted to get a response from you again since it appears that it was not really addressed during the first development of a draft for this permit.

Also, I should note that HRSD-Atlantic has already been issued with an "AND" because I didn't realize that Clyde had made that change in the permit before he went on military leave. At least that plant discharges to the ocean so I'm not sure if it is any benefit in that case to try to do a modification.

Please let me know what you think. If you need a copy of the email between you and Clyde I can scan it in and email it to you.

Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd
Virginia Beach, VA 23462
Phone: 757-518-2008
Fax: 757-518-2009

Austin,Deanna

From: Austin,Deanna
Sent: Tuesday, June 26, 2007 7:51 AM
To: Horne, Daniel (VDH)
Subject: RE: [Fwd: HRSD Chlorine Special condition]

Dan,

I have emailed this info along to Keith Skiles. In addition to the emails below, I have also sent a new HRSD proposal to replace the and/or issue. HRSD proposes reporting when they have 4 consecutive TRC values below the level set in each permit. In the case of Ches-Liz, it would be 0.6 mg/L.

Kim Butler and I have been talking and we may propose that they report to us when the TRC level is <0.1 at any given reading.

Let me know what you think. Thanks.

Deanna

-----Original Message-----

From: Horne, Daniel (VDH)
Sent: Friday, June 22, 2007 10:13 AM
To: Austin,Deanna
Subject: [Fwd: HRSD Chlorine Special condition]

Deanna -

I don't recall the discussion from back in 2004, but based on what I see here, I would suggest that the word NOT be changed from "or" to "and" - it should remain as "or". If I remember correctly, the 0.6 mg/L was chosen because that was the lower limit from the chlorine reduction study performed a number of years ago - I believe that the agreement between VDH and DEQ at that time was that having a residual of below 0.6 mg/L would suggest that the effluent was not properly disinfected.

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Dan H.

----- Original Message -----

Subject:HRSD Chlorine Special condition

Date:Thu, 21 Jun 2007 11:00:10 -0400

From:Austin,Deanna <ddaustin@deq.virginia.gov>

To:Horne, Daniel (VDH) <Daniel.Horne@vdh.virginia.gov>

Dan,

I am currently working on the reissuance of the HRSD permits that was first started in 2004. Because of some litigation, there was a hold up but we are now able to process. Clyde was working on these but is out for military leave. When I was going through his file I ran across an email from you dated 3/16/04 concerning disinfection reporting. Clyde had written you on 3/1/04 stating that he was planning on changing the following condition in red. The change purposed would change the bold OR to an AND.

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7/5/2007

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Deanna Austin
DEQ-TRO Water Permits
5636 Southern Blvd
Virginia Beach, VA 23462
Phone: 757-518-2008
Fax: 757-518-2009

Nansemond River STP Stormwater Outfall Flow Calculations

Annual average rainfall for the Portsmouth Weather Station 1976-2006 48.86" Over a year period it is an average of 0.134" day....Converted to feet
0.011 feet of rainfall

Runoff Coefficients of **0.5** for pervious surfaces and **0.9** for impervious surfaces were obtained from "Design and Construction of Sanitary and Storm Sewers"

Outfall 002 175,050 sq ft impervious surface x 0.9 = 157,545
737,717 sq ft pervious surface X 0.5 = 368,858.5
Total Area = 526,403.5
Total Runoff Volume 0.011 ft rain X 526,403.5 = 5790.43 cu ft x 7.48e-6 = **0.043 MGD**

Outfall 003 22,949 sq ft impervious surface x 0.9 = 20,654.1
34,586 sq ft pervious surface X 0.5 = 17,293
Total Area = 37,947.1
Total Runoff Volume 0.011 ft rain X 37947.1 = 417.42 cu ft x 7.48e-6 = **0.003 MGD**

Outfall 004 55,346 sq ft impervious surface x 0.9 = 49,811.4
16,139 sq ft pervious surface X 0.5 = 8069.5
Total Area = 57,880.9
Total Runoff Volume 0.011 ft rain X 57,880.9 = 636.69 cu ft x 7.48e-6 = **0.005 MGD**

Outfall 005 206,641 sq ft impervious surface x 0.9 = 185,976.9
66,977 sq ft pervious surface X 0.5 = 33488.5
Total Area = 219,465.4
Total Runoff Volume 0.011 ft rain X 219,465.4 = 2414.12 cu ft x 7.48e-6 = **0.018 MGD**

Outfall 006 94,976 sq ft impervious surface x 0.9 = 85,478.4
236,969 sq ft pervious surface X 0.5 = 118,484.5
Total Area = 203,962.9
Total Runoff Volume 0.011 ft rain X 203,962.9 = 2243.59 cu ft x 7.48e-6 = **0.017 MGD**

Total for all 5 outfalls = 0.086 MGD

**VIRGINIA DEQ NO EXPOSURE CERTIFICATION
FOR EXCLUSION FROM VPDES STORM WATER PERMITTING**

Submission of this **No Exposure Certification** constitutes notice that the entity identified below does not require permit authorization for its storm water discharges associated with industrial activity under the VPDES Permit Program due to the existence of a condition of **No Exposure**.

A condition of **No Exposure** exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the No Exposure exclusion. In addition, the exclusion from VPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity below is certifying that a condition of No Exposure exists at its facility or site, and is obligated to comply with the terms and conditions at 9 VAC 25-31-120.F (the VPDES Permit Regulation).

Please Type or Print All Information. ALL INFORMATION ON THIS FORM MUST BE PROVIDED.

1. Facility Owner Information

Name: Hampton Roads Sanitation District

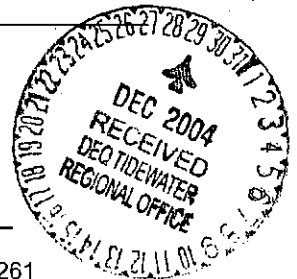
Mailing Address: P O Box 5911

City: Virginia Beach

State: VA

Zip: 23471

Phone: 757 460 2261



2. Facility/Site Location Information

Facility Name: Nansemond STP

Address: 6900 College Drive

City: Suffolk

State: VA

Zip: 23435

Latitude: 36 53 30 N

Longitude: 76 25 30 W

3. Was the facility or site previously covered under a VPDES storm water permit?

Yes ☒

No ☐

If "Yes", enter the VPDES permit number: VA 0081299

4. SIC/Activity Codes: Primary: 4952 Secondary (if applicable): _____

5. Total size of facility/site associated with industrial activity: 37.82 acres

6. Have you paved or roofed over a formerly exposed pervious area in order to qualify for the No Exposure exclusion? Yes ☐ No ☒

If "Yes", please indicate approximately how much area was paved or roofed. Completing this question does not disqualify you for the No Exposure exclusion. However, DEQ may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

Less than one acre ☐

One to five acres ☐

More than five acres ☐

7. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) **If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the No Exposure exclusion.**

	Yes	No
1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Materials or residuals on the ground or in storm water inlets from spill/leaks	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Materials or products from past industrial activity	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Material handling equipment (except adequately maintained vehicles)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Materials or products during loading/unloading or transporting activities	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Materials or products handled/stored on roads or railways owned or maintained by the discharger	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters])	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Application or disposal of process wastewater (unless otherwise permitted)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow	<input type="checkbox"/>	<input checked="" type="checkbox"/>

8. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from VPDES storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility or site identified in this document (except as allowed under 9 VAC 25-31-120.F).

I understand that I am obligated to submit a No Exposure Certification form once every five years to the Department and, if requested, to the operator of the local municipal separate storm sewer system (MS4) into which the facility discharges (where applicable). I understand that I must allow the Department, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under a VPDES permit prior to any point source discharge of storm water from the facility.

Additionally, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: D. R. Wheeler

Print Title: General Manager

Signature: 

Date: 12/16/04

For Department of Environmental Quality Use Only

Accepted/Not Accepted by: _____

Date: _____

STANDARD SPECIAL CONDITION CHANGE SHEET

This sheet is to be used for documenting a change to a Standard Special Condition. Once approved, the change will be applicable to this permit only. No changes to Standard Special Conditions are allowed without completing this change sheet.

Permit No.: VA0081299 Facility: HRSD Nansemond STP

Date: March 8, 2006 Permit Writer: Clyde K. Gantt

Special Condition Affected: Sludge Management

Change Requested:

The sludge characteristics monitoring frequency for a STP of this size is usually once per 60 days (1/2 Months). The frequency changes requested are for 1/Application and 1/Bulk Application.

The requirements for reporting the description of management practices and how site restrictions met deleted from special condition.

Rationale For Change:

The primary means of sludge disposal for this facility is incineration. However, the Sludge Management Plan lists back-up alternate plans in the event incineration is not available, or if sludge from the HRSD plants normally designated to go to Sonoco cannot be transported there. The first alternate is hauling the sludge to the Sunoco Compost Facility for composting. The second alternate is hauling the sludge to the HRSD Atlantic plant for land application.

The limits and monitoring for metals in the sludge is applicable to sludge both bagged (composted) and applied in bulk to the land. The nutrients and remaining sludge characteristics, along with the soil characteristics is applicable only to sludge applied in bulk to the land.

Since composting/bagging and land application, are back-up plans for this facility, it is anticipated that these plans will be used infrequently, if at all. Therefore, monitoring applicable to the two plans would only be necessary and required when they are used.

The reporting requirements will be fulfilled under the SMP for the Atlantic Plant under which land application is regulated.

Effect of the Change:

Sludge/soil monitoring would only be required during the months either of the back-up plans is used. HRSD would have to have the monitoring results available prior to the actual composting or land application occurring.

Could other permits be affected by this change; if so, which permit(s) (i.e.- other facilities under the same owner)?

Yes, this change would affect other HRSD permits where the SMP uses one or both of these as back-up plans.

Water Permit Manager Concurrence:



Date:

03/09/06

Admin Notified and Copied with Change:



Date:

3/9/06

Routing: PW > WPM > PW (include in Fact Sheet) > Admin

This sheet must be included as part of the Fact Sheet and copied to the Admin group upon concurrence by the Water Permit Manager. If necessary, attach a copy of the original Special Condition and the proposed changed Special Condition to this sheet.

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. Additional Total Residual Chlorine (TRC) Limitations and Monitoring Requirements

Rationale: Required by Water Quality Standards, 9VAC 25-260-170, Fecal coliform bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1.a. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44 (c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the Clean Water Act.

1.b. Water Quality Standards Reopener

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

1.c. Nutrient Reopener

Rationale: 9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

1.d. Total Maximum Daily Load (TMDL) Reopener

Rationale: For specified waters, section 303(d) of the Clean Water Act requires the development of total maximum daily loads necessary to achieve the applicable water quality standards. The TMDL must take into account seasonal variations and a margin of safety. In addition, section 62.1-44.19:7 of the State Water Control Law requires the development and implementation of plans to address impaired waters, including TMDLs. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to incorporate the requirements of a TMDL once it is developed. In addition, the reopener recognizes that, in according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

2. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

3. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 12 VAC 5-581-20 and 120 for all municipal facilities.

4. CTC, CTO and O & M Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19; the Sewage Collection and Treatment Regulations (12 VAC 5-581 et seq); Section 401 of the Clean Water Act; 40 CFR 122.41(e); and the VPDES Permit Regulation (9 VAC-25-31-190E).

9 VAC 25-40-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction, expansion or upgrade.

5. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2. for all POTW and PVOTW permits. Best professional judgement is used to apply this condition to other (private) municipal treatment facilities.

6. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4.

7. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters with quantification levels and other limited parameters to ensure consistent, accurate reporting on submitted reports.

8. Effluent Monitoring Frequencies

Rationale: The incentive for reduced monitoring is an effort to reduce the cost of environmental compliance and to provide incentives to facilities which demonstrate outstanding performance and consistent compliance with their permits. Facilities which cannot comply with specific effluent parameters or have other related violations will not be eligible for this benefit. This is in conformance with Guidance Memorandum No. 98-2005 - Reduced Monitoring and EPA's proposed "Interim Guidance For Performance-Based Reduction of NPDES Permit Monitoring Frequencies" (EPA 833-B-96-001) published in April 1996.

9. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

10. Total Phosphorus-Nutrient reporting calculations

Rationale: §62.1-44.19:13 of the Code of Virginia defines how annual nutrient loads are to be calculated; this is carried forward in 9 VAC 25-820-70. As annual concentrations (as opposed to loads) are limited in the individual permit, this special condition is intended to reconcile the reporting calculations between the permit programs, as the permittee is collecting a single set of samples for the purpose of ascertaining compliance with two permits.

11. Suspension of concentration limits for E3/E4 facilities

Rationale: 9 VAC 25-40-70 B authorizes DEQ to approve an alternate compliance method to the technology-based effluent concentration limitations as required by subsection A of this section. Such alternate compliance method shall be incorporated into the permit of an Exemplary Environmental Enterprise (E3) facility or an Extraordinary Environmental Enterprise (E4) facility to allow the suspension of applicable technology-based effluent concentration limitations during the period the E3 or E4 facility has a fully implemented environmental management system that includes operation of installed nutrient removal technologies at the treatment efficiency levels for which they were designed.

12. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-420, and 40 CFR 503.1 specify the purpose and applicability for sludge management plans. The VPDES Permit Regulation, 9 VAC 25-31-100 J.4., also sets forth certain detailed information which must be included in a sludge management plan. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. In addition, the Biosolids Use Regulation, 12 VAC 5-585-330 and 340, specifies the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

D. PRETREATMENT

Rationale: The permit regulation, 9 VAC 25-31-10 et seq., Part VII, establishes the legal requirements for State, local government and industry to implement National Pretreatment Standards. The Pretreatment Standards are implemented to prevent POTW plant pass through, interference, violation of water quality standards or contamination of sewage sludge. The regulation requires POTWs with a total design flow greater than 5 MGD with significant or categorical industrial input to establish a Pretreatment Program. The regulation also may apply to POTWs with design flows less than 5 MGD if circumstances warrant control of industrial discharges.

E. TOXICS MANAGEMENT PROGRAM (TMP)

Rationale: To determine the need for pollutant specific and/or whole effluent toxicity limits as may be required by the VPDES Permit Regulation, 9 VAC 25-31-220 D. and 40 CFR 122.44 (d). See Attachment 9 of this fact sheet for additional justification.

ATTACHMENT 8

TOXICS MONITORING/TOXICS REDUCTION/WET LIMIT
RATIONALE

MEMORANDUM

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard

Virginia Beach, VA 23462

SUBJECT: Toxics Management Program (TMP) testing for HRSD-Nansemond Plant (VA0081299)

TO: Clyde Gantt

FROM: Deanna Austin *DDA*

DATE: 3/8/06

COPIES: TRO File (PPP #277)

HRSD-Nansemond plant is a major municipal discharger (design flow 30 MGD) of treated domestic sewage. Discharge from outfall 001 to the James River, near the confluence of the Chesapeake Bay and the Nansemond river mouth, will continue to be monitoring for toxicity during this permit term.

During the last permit term, the facility monitored for the most sensitive species, *Mysidopsis bahia* (now known as *Americamysis bahia*) only. Because of the EPA permit application requirement to monitor with two species, one vertebrate and one invertebrate, two species will be added to the permit language. During the reapplication process, the facility did monitor quarterly for one year with the vertebrate species, *Cyprinodon variegatus*, however, it is better for review if both the vertebrate and the invertebrate tests are performed at the same time. Since the facility must monitor both species for the application, there is no known reason that they can not be performed concurrently.

There has been no change in the dilution from the previous permit; therefore the nearfield (acute) dilution factor (73) remains the same. The following calculation shows how the TU_a was derived.

Acute dilution = $100/IWC_a$

$73 = 100/IWC_a$

$100/73 = 1.37\% IWC_a$

$LC_{50} = IWC/$ Acute Water Quality Instream criterion

$LC_{50} = 1.37/0.3 = \geq 4.57\%$ (round to 5% effluent)

$TU_a = 1/LC_{50} \times 100$

$1/5 \times 100 = 20$

$TU_a = \leq 20$

OUTFALL	DESCRIPT	SPECIES	SAMPLEDT	LC50	SURVIVAL in 6.25% EFFLUENT	Survival in 100% effluent	TU	TEST	LAB
001	1st Annual Acute	M.b.	9/21/2000	100	100	80	1	Acute	HRSD
001	2nd Annual Acute	M.b.	10/9/2001	100	100	90	1	Acute	HRSD
001	3rd Annual Acute	M.b.	8/6/2002	100	100	100	1	Acute	HRSD
001	4th Annual Acute	M.b.	4/23/2003	100	100	89	1	Acute	HRSD
001	5th Annual Acute	M.b.	10/5/2004	100	100	100	1	Acute	HRSD
001	Second Species Test	C.v.	4/15/2003	70.7	100	5	1.41	Acute	HRSD
001	Second Species Test	C.v.	6/17/2003	100	100	100	1	Acute	HRSD
001	Second Species Test	C.v.	8/19/2003	100	100	100	1	Acute	HRSD
001	Second Species Test	C.v.	11/18/2003	100	100	100	1	Acute	HRSD

C.v. - *Cyprinodon variegatus*

M.b. - *Mysidopsis bahia*, which is now known as *Americamysis bahia*

The following TMP language is recommended for the reissuance of the HRSD Nansemond permit (VA0081299).

E. TOXICS MANAGEMENT PROGRAM

1. Biological Monitoring

- a. In accordance with the schedule in 2. below, the permittee shall conduct annual acute toxicity tests for the duration of the permit. The permittee shall collect 24-hour flow-proportioned composite samples of final effluent from outfall 001 in accordance with Part 1.A. of this permit. The acute tests to use are:

48 Hour Static Acute test using Americamysis bahia and
48 Hour Static Acute test using Cyprinodon variegatus

These acute tests shall be performed with a minimum of 5 dilutions, derived geometrically, for the calculation of a valid LC_{50} . Express the results as TU_a (Acute Toxic Units) by dividing $100 / LC_{50}$ for reporting. Both species should be analyzed at the same time from the 24-hour flow-proportioned composite sample.

Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

- b. The permittee may provide additional samples to address data variability during the period of initial data generation. These data shall be reported and may be included in the evaluation of the effluent toxicity. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- c. The test dilutions shall be able to determine compliance with the following endpoints:

(1) Acute LC_{50} of $\geq 5\%$ equivalent to a TU_a of ≤ 20

- d. All applicable data will be evaluated for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee, or if toxicity has been noted. Should evaluation of the data indicate that a limit is needed, a WET limit and compliance schedule will be required and the toxicity tests of E.1.a. may be discontinued. Permit specific limits in lieu of a WET limit may be added, should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity of the effluent.

2. Reporting Schedule

The permittee shall report the results and supply **two** complete copies of the toxicity test reports to the Tidewater Regional Office in accordance with the schedule below.

(a)	Conduct first annual TMP test for outfall 001 using <u>Americamysis bahia</u> and <u>Cyprinodon variegatus</u>	By December 31, 2006
(b)	Submit results of all biological tests	Within 60 days of the sample date and no later than January 10, 2007
(c)	Conduct subsequent annual TMP tests for outfall 001 using <u>Americamysis bahia</u> and <u>Cyprinodon variegatus</u>	By December 31, 2007, 2008, and 2009
(d)	Submit subsequent annual biological tests	Within 60 days of the sample date and no later than January 10, 2008, 2009, and 2010

ATTACHMENT 9

RECEIVING WATERS INFO.
TIER DETERMINATION/303(d) LIST INFO./
STREAM MODELING

MEMORANDUM

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard

Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests

From TO: Stephen Cioccia, TRO

To FROM: Clyde Gantt, TRO *CG*

DATE: ~~January 23, 2006~~ *July 13, 2007*

COPIES: TRO File # 277, PPP

An application has been received for the following facility:

HRSD Nansemond STP

Topo Map Name: Newport News South VPDES #: VA0081299

Receiving Stream: Hampton Roads

Attached is a Topographic Map showing facility boundaries and outfall location(s).

Attached is a STORET Request Form if STORET data is requested.

We request the following information from you:

- Additional impairments attachment 1 Benthic (General Standard) impaired*
1. X Tier Determination. Tier: 1 *(per BIBI data for 2006 IR Assessment)*
Please include a basis for the tier determination.
 2. *Not requested* STORET Data and STORET Station Location(s). *Attachment 1*
 3. X Is this facility mentioned in a Management Plan?
 No Yes ✓ No, but will be included when the Plan is updated.
 4. X Are limits contained in a Management Plan?
✓ No Yes (If Yes, Please include the basis for the limits.)
 5. X Does this discharge go to a 303(d) stream segment? Yes
Attachment 1







Return Due Date: 1/23/06

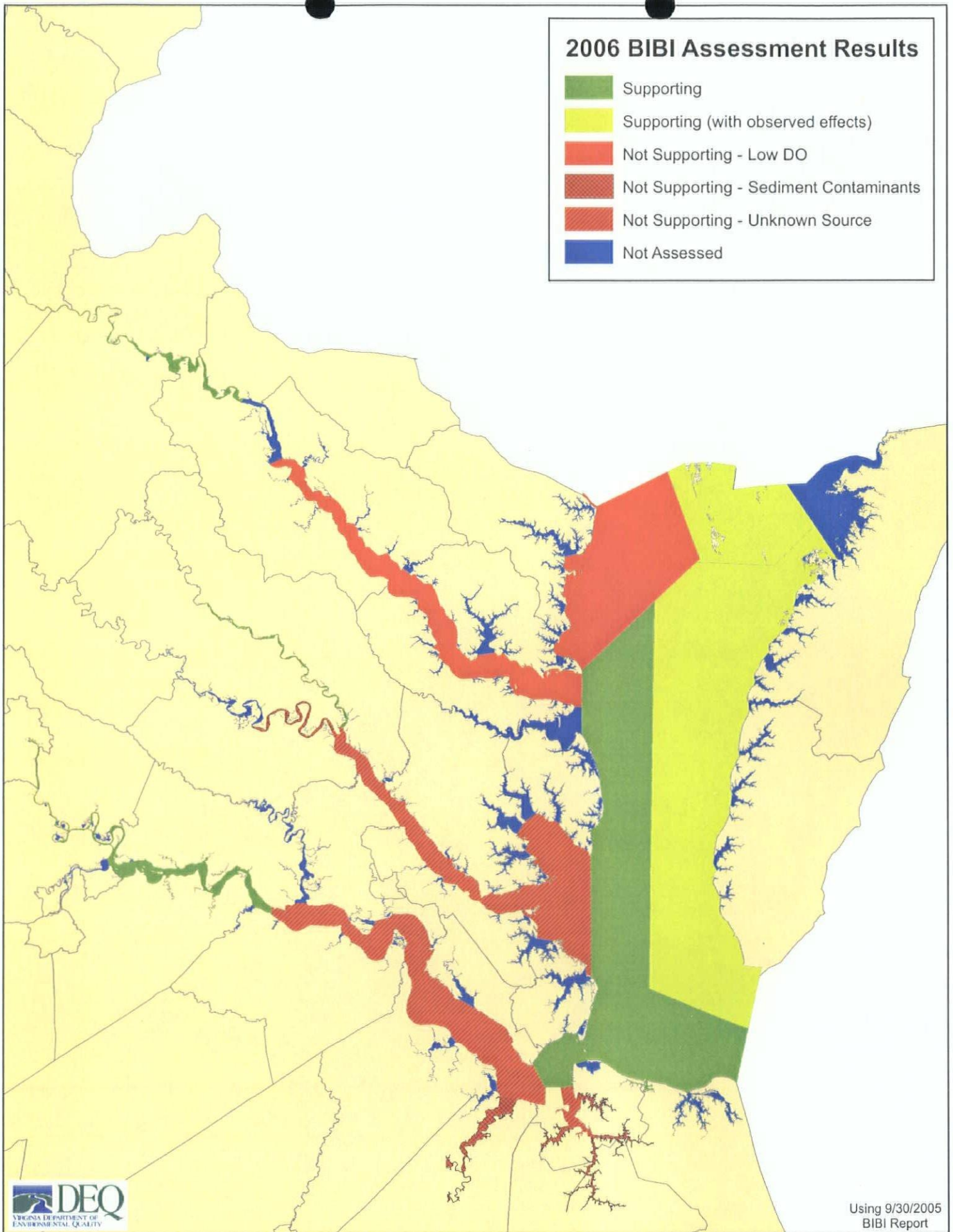
Date Returned: ~~1/23/06~~ 7/13/07

STORET Station: _____

STORET Station: _____

2006 BIBI Assessment Results

-  Supporting
-  Supporting (with observed effects)
-  Not Supporting - Low DO
-  Not Supporting - Sediment Contaminants
-  Not Supporting - Unknown Source
-  Not Assessed



Attachment 1-1

Cioccia, Stephen

From: Owens, Roland
Sent: Thursday, October 06, 2005 10:50 AM
To: Hoffman, Frederick; Palmore, Jennifer; Cioccia, Stephen; Smith, Donald
Cc: Glover, Darryl; Augustine, Harry; Woodall, Kristy
Subject: FW: Final documents 2006 IR B-IBI assessment

Attached is a map showing the results of the Virginia segments.

Roland



bibi_2006_assessm
ent.pdf (6 MB...

-----Original Message-----

From: Hoffman, Frederick
Sent: Tuesday, October 04, 2005 2:07 PM
To: Roberto Llanos (E-mail) (Roberto Llanos (E-mail)); (ddauer@odu.edu); (winchester.erik@epa.gov); Charlie Poukish (E-mail) (cpoukish@mde.state.md.us); Eskin Rich (Eskin, Rich); Garrison Sherm (Garrison, Sherm); Jackie Johnson (CIMS) (Jackie Johnson (CIMS)); Larry Merrill (Merrill.Larry@epamail.epa.gov); Mark Barath (E-mail); Micheal, Bruce ; Peter Gold (gold.peter@epa.gov); Thomas, Bryant; Augustine, Harry; Cioccia, Stephen; Glover, Darryl; Hoffman, Frederick; 'John Paul'; 'Jon Volstad'; Palmore, Jennifer; Smith, Donald
Subject: Final documents 2006 IR B-IBI assessment

Attached are the final documents for the 2006 303d assessment of Bay benthic communities. The documents are:

- 1) VERSAR technical Report – This is final version not previously distributed. Thanks to VERSAR for changing it to incorporate the new name of "Percent Degraded Area" method (vs. "bootstrap") and including the appendix within this document (vs. as a separate file).
- 2) Final 303d/305b Integrated Report Summary document for use by state assessment staff – No significant changes have been made to previously distributed but thanks to those who provided wording suggestions.

This project is now officially done for the 2006 303d cycle!

Thanks,

Rick Hoffman
Chesapeake Bay Office, VA Department of Environmental Quality
P.O.B. 10009, Richmond VA 23240-0009
629 E. Main St. (Street Address, i.e. for Fed-ex)

804-698-4334 (Phone)
1-800-592-5482 (in-state toll free Phone)
804-698-4116 (Fax)
<http://www.deq.state.va.us/bay/cbpmom.html>

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1
Attachment 1-2

List of Impaired (Category 5) Waters in 2006

Assessment Unit ID	Waterbody Name	City / County*	Assessment Unit Description
VAT-G11E_JMS05A06	James River - Newport News Point to NW Corner Craney Isl.	02080206 CITY	Mainstem from a line following the Rt. 664 crossing downstream to line between Lincoln Park/NW corner Craney Island. Portion of CBP segment JMSMH. DSS (ADMINISTRATIVE) shellfish direct harvesting condemnations # 058-034 A&B & portion 057-007 A&B.
VA Overall AU Category: Aquatic Life	5A	Impairment 3.40 SQUARE MILES First Listed on 303(d) TMDL Schedule 2006 2010	Impairment Specific Comments and/or Impairment Specific VA Category
	Aquatic Plants (Macrophytes)		The Shallow-Water Submerged Aquatic Vegetation Use is impaired based on failure to meet the SAV acreage criteria provided by the CBPO 12/1/2005.
		Sources: Agriculture Atmospheric Deposition - Nitrogen Clean Sediments Industrial Point Source Discharge Internal Nutrient Recycling Loss of Riparian Habitat Municipal Point Source Discharges Sediment Resuspension (Clean Sediment) Sources Outside State Jurisdiction or Borders Wet Weather Discharges (Non-Point Source) Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	
Aquatic Life	Estuarine Bioassessments	2006 2010	The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis (VERSAR-2005). The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G11E-01. The TMDL due date is carried from the previous 2004 IR impairment identification date.
Aquatic Life	Oxygen, Dissolved	2006 2010	The Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer (CFD reference conditions using the 2/26/2006 CFD results supplied by CBPO).
		Sources: Source Unknown	
		Sources: Agriculture Atmospheric Deposition - Nitrogen Industrial Point Source Discharge Internal Nutrient Recycling Loss of Riparian Habitat Municipal Point Source Discharges Sources Outside State Jurisdiction or Borders Wet Weather Discharges (Non-Point Source) Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	
Fish Consumption	PCB in Fish Tissue	2006 2018	The Fish Consumption Use is impaired based on the VDH fish consumption advisory for PCBs issued 12/13/04.
		Sources: Source Unknown	

Attachment 1-3

List of Impaired (Category 5) Waters in 2006

Assessment Unit ID

Waterbody Name

City / County*

Assessment Unit Description

Open-Water Aquatic
Life

Oxygen, Dissolved

2006

2010

The Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer (CFD reference conditions using the 2/26/2006 CFD results supplied by CBPO).

Sources: Agriculture
Atmospheric Deposition - Nitrogen
Industrial Point Source Discharge
Internal Nutrient Recycling
Loss of Riparian Habitat
Municipal Point Source Discharges
Sources Outside State Jurisdiction or Borders
Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

Shallow-Water
Submerged Aquatic
Vegetation

Aquatic Plants (Macrophytes)

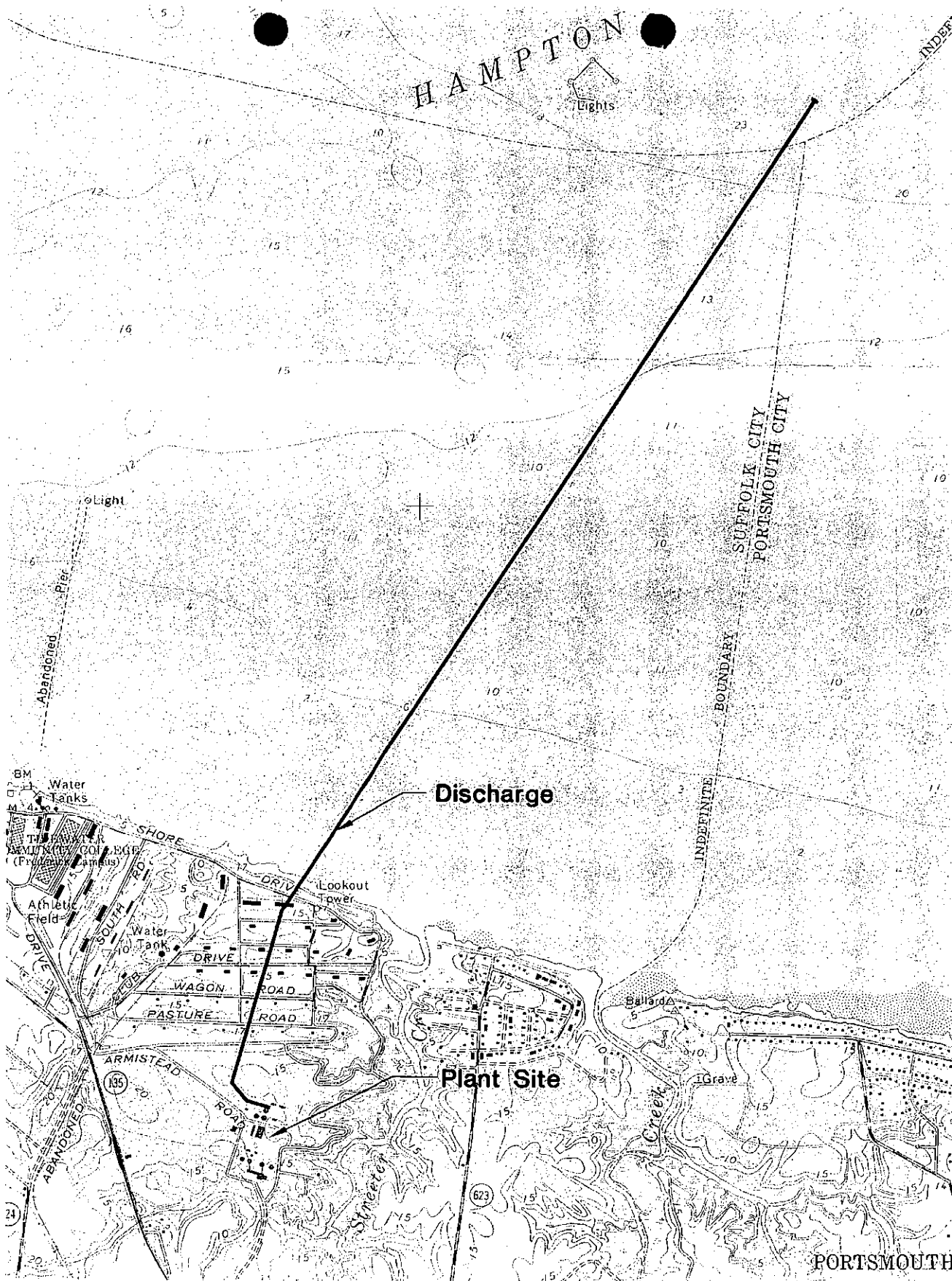
2006

2010

The Shallow-Water Submerged Aquatic Vegetation Use is impaired based on failure to meet SAV acreage criteria provided by the CBPO 12/1/2005.

Sources: Agriculture
Atmospheric Deposition - Nitrogen
Clean Sediments
Industrial Point Source Discharge
Internal Nutrient Recycling
Loss of Riparian Habitat
Municipal Point Source Discharges
Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders
Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

- Attachment 7-4



Location Map
for
Nansmond TP

June 2003

Scale: 1"=2000'

USGS Map Reference



HRSD

P. O. BOX 5911, VIRGINIA BEACH, VIRGINIA 23471-0911 • (757) 460-2261 FAX (757) 460-2372

www.hrsd.com

Commissioners

William H. Pierce
Chair

R. Tyler Bland, III
Vice-Chair

James H. Shoemaker, Jr.

Parris D. Carson

Vishnu K. Lakdawala, PhD

Judith S. Scott

Richard C. Conti

B. Anne Davis

April 16, 2004



Mr. Clyde Gantt
Department of Environmental Quality
Tidewater Regional Office
5636 Southern Boulevard
Virginia Beach, VA 23462

RE: Nansemond Permit Application (VA0081299)

D. R. Wheeler
General Manager

Edward D. Romm, P.E.
Director of Engineering

John A. Maniscalco, CPA
Director of Finance
& Administration

Keith W. Benson, P.E.
Director of
Interceptor Systems

G. David Waltrip, P.E.
Director of Treatment

Guy M. Aydtlett
Director of Water Quality

Dear Mr. Gantt:

Enclosed is the Nansemond STP VPDES permit application package along with three copies of the package. An additional three copies of the application package has been submitted to Virginia Department of Health.

In addition to the required DEQ forms, HRSD has included six memoranda to address specific issues in the proposed permit. The first attachment concerns the new bacteria standards. Based on the data collected by HRSD per the DEQ guidance, HRSD is requesting that chlorine residual monitoring be used as a surrogate for bacteria monitoring. The second attachment outlines HRSD's review of our final effluent chlorine residual limits. HRSD does not see a need to modify the existing technology based limits.

Attachment 3 includes a summary of the acute toxicity tests. All of the eight tests indicated no toxicity. Attachment 4 is a review of the toxics data. None of the parameters monitored for the permit application indicated a reasonable potential to exceed water quality standards.

Attachment 5 of this package is a compilation of HRSD's review of TBT and its potential to be present in the effluent. This memo outlines the strict policies of HRSD's Pretreatment Program with regards to TBT as well as the unreliability of the TBT analysis. HRSD has submitted data to your office which supports our request to not include TBT monitoring in the upcoming permit.

Serving the Cities of

Chesapeake

Hampton

Newport News

Norfolk

Poquoson

Portsmouth

Suffolk

Virginia Beach

Williamsburg

Serving the Counties of

Gloucester

Isle of Wight

James City

King & Queen

King William

Mathews

Middlesex

York

PROVIDING WASTEWATER SERVICES TO PROTECT AND ENHANCE OUR ENVIRONMENT

ATTACHMENT 10

TABLE III(a) AND TABLE III(b) -
CHANGE SHEETS

TABLE III(a)
VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001	Chlorine, Total Final	No Change	From: 0.2 mg/l To: 0.20 mg/l	This change is in response to guidance document 06-2016 which states limits should be written as 2 significant figures	8/10/07 DDA
001	Fecal Coliform	From: 3/Week To: 1/Week (Between 10 am & 4 pm)	NA	The change in frequency was BPJ by CKG during earlier permit negotiations and the calculations reconfirmed by DDA. The addition of the sample collection time is in response to DEQ requirements. This is standard for all STP permits. A study had previously been submitted by HRSD (1987) to show no difference in times the samples were taken, however, since that time, DEQ position has changed. At the time of this reissuance, it is the DEQ Central Office position that a proposal for HRSD to perform another study can be submitted to the DEQ for approval. This is as directed from Ellen Gilinsky, Director of Water Quality Program to Norm LeBlanc of HRSD. HRSD has submitted the proposal to CO.	8/10/07 DDA
001	Total Nitrogen	1/week/ No Monitoring		This parameter is now addressed under the Nutrient GP (VAN040090)	8/10/07 DDA
001	Total Phosphorus	5/week / 1/year Annual Concentration Average	2 mg/l to 2.0 mg/l	The change to an annual concentration average is from guidance document 07-2008. Monitoring for Total Phosphorus for loading is covered under the nutrient GP. The change in the limit to 2.0 is based upon 9 VAC 25-40 and the latest significant figures guidance 06-2016.	8/10/07 DDA

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
SP1	Sludge	From: No monitoring To: Metals/Nutrient monitoring during months when sludge is sent to HRSD Atlantic for land application.	From: No Limits To: (mg/kg) Ar-75/41, Cd-85/39, Cu-4300/1500, Pb-840/300, Hg-57/17, Mb-75, Ni-420/420, Se-100/100, Zn-7500/2800.	VPDES Permit Manual, SMP Back-up Plan (Land App.)	3/7/06 CKG

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
Removed Special Condition "Tributyltin Monitoring"	BPJ decision by CKG during 1 st draft of this permit. The results of the TBT monitoring required during the current permit term were <10 ppt. The HRSD Industrial Division Regulations required all discharges to HRSD to be below the QL of 30 ppt for TBT.	7/16/04 CKG
The TRC Limitations and Monitoring Requirements Section detailing alternatives to chlorine has changed from a daily fecal coliform limit to a 3/week enterococci limit.	The bacteria water quality standards have changed since the last permit term. 9 VAC 25-260-170 sets the requirements for bacteria for all waters other than shellfish waters. Additionally, enterococci monitoring has not been required based on the disinfection study submitted by HRSD on July 1, 2004 with the reissuance application for this permit. The study documents that adequate disinfection for enterococcus was accomplished and demonstrated that chlorine is adequate as a substitute monitoring parameter. The study is included in section 6 of the fact sheet. This was a BPJ decision by CKG to exclude enterococci monitoring.	8/10/07 DDA
Addition of a nutrient reopener AND a CTC reopener condition to the CTC,CTO special condition Also, the removal of the nutrient enriched waters reopener	This is based upon guidance document 07-2008 (admdment #2), "Permitting Considerations for Facilities in the Chesapeake Bay Watershed".	10/29/07 DDA
QL changed for Chlorine from 0.1 mg/l to 0.10 mg/l.	Changed based upon the significant figures guidance 06-2016.	8/10/07 DDA

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
TMDL Reopener Added	The segment of the Chesapeake Bay that the facility discharges to has been added to the 2006 303d list for Impaired waters, therefore the TMDL reopener is required in the permit.	8/10/07 DDA
Nutrient Reporting Calculations	This language is taken from guidance document 07-2008 for facilities that contain concentration limits for TN or TP	8/10/07 DDA
Suspension of concentration limits for E3/E4 Status Facilities Added	This language is taken from guidance document 07-2008 for facilities that contain annual concentration limits for TN or TP.	8/10/07 DDA
Pretreatment Special Condition - Local Limits Reevaluation	Removed specific date for submittal of local limits. Replaced with standard language requiring submittal within 1 year of permit issuance.	3/16/06 CKG
Toxics Management Condition	<ol style="list-style-type: none"> 1. Added requirement to test for Cyprinodon variegates in addition to Americamysis bahia. 2. Added compliance endpoints of LC50 ≥5% equivalent to a TU_a of ≤20 and requirement for results to be reported in Toxicity Units (TU_a). 3. Added sentence with minimum number dilutions derived geometrically. 4. Modified paragraph regarding results less than compliance endpoints and deleted TRE requirements. 5. Added paragraph regarding samples to address data variability. 6. Changed report due from 10th of month following sample to 60 days after sampling. The 60 days was negotiated by the facility. Most facilities are required to submit the toxic reports by the 10th of the month following sampling. 	3/7/06 CKG
Stormwater Special Condition	Condition removed from permit. This is allowed in 9 VAC 25-31-120.E if requirements for "No Exposure" for industrial pollutants are met at the facility. HRSD submitted the required "No Exposure Certification" with permit application.	1/06/06 CKG

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 11

EPA PERMIT CHECKLIST

**State "Transmittal Checklist" to Assist in Targeting
Municipal and Industrial Individual NPDES Draft Permits for Review**

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: HRSD Nansemond STP

NPDES Permit Number: VA0081299

Permit Writer Name: Deanna Austin

Date: August 17, 2007

Major [X]

Minor []

Industrial []

Municipal [X]

II.A. Permit Cover Page/Administration

	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits - General Elements

	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)

	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	X		

4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits

	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	X		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	X		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	X		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?			X
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	X		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?			X
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?		X	
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements

	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		

3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?	X		

II.F. Special Conditions

	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	X		
2. Does the permit include appropriate storm water program requirements?	X		
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	X		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		X	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		X	
a. Does the permit require implementation of the "Nine Minimum Controls"?			X
b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
c. Does the permit require monitoring and reporting for CSO events?			X
7. Does the permit include appropriate Pretreatment Program requirements?	X		

II.G. Standard Conditions

	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		

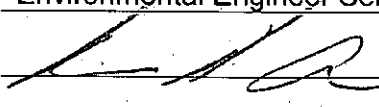
List of Standard Conditions – 40 CFR 122.41

Duty to comply	Property rights	Reporting Requirements
Duty to reapply	Duty to provide information	Planned change
Need to halt or reduce activity	Inspections and entry	Anticipated noncompliance
Not a defense	Monitoring and records	Transfers
Duty to mitigate	Signatory requirement	Monitoring reports
Proper O & M	Bypass	Compliance schedules
Permit actions	Upset	24-Hour reporting
		Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		
---	---	--	--

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	<u>Deanna Austin</u>
Title	<u>Environmental Engineer Senior</u>
Signature	<u></u>
Date	<u>August 17, 2007</u>

ATTACHMENT 12

CHRONOLOGY SHEET

Chronology

Monday, August 27, 2007

Facility Name: HRSD - Nansemond Sewage Treatment Plant

VA0081299

Event	Date	Comment
Reissuance letter mailed:	11/5/2003	
First Application Reminder Phone Call:	— 1/6/2004	
Second Application Reminder Phone Call:	— 2/24/2004	
App sent to State Agencies (list in comment field):	— 4/16/2004	VDH, DSS, Suffolk Health Dept.
Application received at RO 1st time:	— 4/16/2004	
Reissuance application due:	— 4/16/2004	
Application fee deposited:	— 4/20/2004	
App returned/Additional info requested 1st time:	— 4/27/2004	
Application/Additional Info received at RO 2nd time:	— 4/30/2004	Stormwater Outfall Info, Sludge Route, Corrected Toxicity Results
Comments rec'd from State Agencies on App:	— 5/6/2004	VDH, DSS, LHD
App complete letter sent to permittee:	— 5/18/2004	
Application Administratively complete:	— 5/18/2004	
Application totally / technically complete:	— 5/18/2004	
1st Draft Permit Developed (CKG):	— 6/30/2004	Another draft developed by CKG 2/10/06.
CKG Draft Reviewed by MHS:	— 7/23/2004	
App sent to Fed Agencies (list in comment field):	— 7/26/2004	EPA
CKG Draft Sent to EPA:	— 7/26/2004	
CKG Draft Sent to Owner:	— 7/26/2004	CKG 2nd Draft sent 2/17/06.
CKG Draft Sent to Planning:	— 7/26/2004	
Planning Concurrence on CKG Draft:	— 7/27/2004	
Comments received from facility:	— 8/9/2004	2nd comments received 9/2/04, Comments to 2/17/06 draft received 3/6/06 nonconcurrence from facility
EPA concurrence on CKG Draft:	— 8/14/2004	
Comments rec'd from Federal Agencies on App:	— 8/16/2004	
Meeting W/HRSD:	— 9/17/2004	Mtg with HRSD; discussed nutrients, Stormwater Mgmt, Toxics, QLs, Significant Figures & Cl2.

<i>Event</i>	<i>Date</i>	<i>Comment</i>
Email to OWPS:	— 9/20/2004	J. McConathy (JRM) email to A. Brockenbrough requesting guidance on QLs & Sig Fig.
Email From OWPS:	— 10/25/2004	A. Brockenbrough response to JRM: Recommends issuing permit with current QLs & Sig Fig Condions.
Ltr to HRSD:	— 10/25/2004	Ltr to N. LeBlanc with response to meeting issues.
Phone Call:	— 11/3/2004	In discussion with Frank after the call, we decided it was appropriate to call HRSD to determine the status of their submittal on the bubble. So, as we discussed, call Sharon Nicklas and see if she has information on the status of HRSD's submittal. If she can provides a date within the next few weeks; fine, no further action is neded other than a telephone conference record for the file. If she does not pprovide a date, inform her that we will be sending a letter requesting the information in the next 30 days. If she asks about administrative continuances, they have been or will be granted. If she needs confirmation in writing, we can provide that but we are not sending written confirmation without a request. Called 11/3 - Sharon out of her office until 11/8. I left a message with information on what we want and for her to call me back.
Checked Administratively Continued:	— 11/4/2004	Bob and Rick did verify that they were comfortable with us administratively continuing the HRSD permits.
Old expiration date:	— 11/4/2004	
Permit:	— 11/4/2004	Permit Administratively continued. Burnley/Weeks approve continuance.
Ltr From HRSD:	— 12/20/2004	Ltr W/"No Exposure" certification.
Permit:	— 1/11/2005	R. Smith assumes permit processing.
Ltr To HRSD:	— 12/20/2005	Requested Fecal coliform sample time comparison study.
Ltr From HRSD:	— 1/5/2006	Proposal for requested fecal study.
Email:	— 1/9/2006	Email to S. Nicklas approving proposed fecal study.
Site visit:	— 1/11/2006	
Site inspection report:	— 1/18/2006	
Ltr From HRSD:	— 2/7/2006	Rcvd results of fecal study for AT, CE & NM plants.
Ltr to HRSD:	— 3/16/2006	Response to N. LeBlanc noting permit revisions; FC sample freq, sludge monitoring, LC50/TUa, TMP reporting.
PN Authorization Received for CKG Draft:	— 4/3/2006	
PN sent to paper for CKG Draft:	— 4/4/2006	Published 4/6/06 but pulled soon after. Processing was halted.
Date of Public Notice:	— 4/6/2006	
Meeting W/HRSD:	— 4/6/2006	Mtr with HRSD to discuss draft permit issues. Discussed toxics, comoliance reporting,, Basis of Desgin, Interim Optimization Plan, Schedule of Compliance, Fecal monitoring window & boundry flow meters. TRO agees to explore options for BoD, IOP,, load limits & flow meters.
Public Notice:	— 4/7/2006	2nd Printing of public notice stopped. To be printed at later date.

Facility Name: HRSD - Nansemond Sewage Treatment Plant

VA0081299

<i>Event</i>	<i>Date</i>	<i>Comment</i>
Email:	— 4/10/2006	Email to S. Nicklas with notification PN stopped.
Email to HRSD:	— 4/11/2006	Email to S. Nicklas with proposed revisions to BoD & GP conditions. Response due 4/21/06.
Resumed work on DP:	— 7/6/2007	Ches-Liz made it to PN, work on all other HRSD facilities can begin.
Draft permit developed:	— 8/17/2007	
Draft reviewed:	— 8/23/2007	Review complete by MHS.
Sent to CO for Nutrient Review:	— 8/24/2007	
Sent to Compliance for Review:	— 8/24/2007	